

MIND

A QUARTERLY REVIEW

OF

PSYCHOLOGY AND PHILOSOPHY.

I.—EVOLUTION AND PSYCHOLOGY IN ART.

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It is not an altogether exhilarating employment to treat of Art, partly because opinion about it is in a state of flux, is not yet systematised; and partly because its terminology has been either undefined or else accompanied by definitions that have not always secured general assent.

Perhaps Professor Haddon was right in calling his work, to which reference was made in a recent number of this Journal, *Evolution in Art*. To have given it such a title as "the Evolution of Art" would have been to beg the question, Has Art been evolved, or has it grown by simple accretion? Evolution is not the same thing as growth. It may include increase of volume or of complexity, but it concerns quality as much as quantity, kind as much as degree, unlikeness as much as similarity.

The imago that has a shorter life, a smaller frame, and a less voracious appetite than the larva from which it sprang, may so greatly depart from its larval body in form and function as to possess other organs, to inhabit a different medium, and to be busied mainly with the new task of completing the cycle of its existence. And a chemical compound may vary in almost the whole range of its properties from those of any or all of its constituents added or averaged together.

Evolution as a term must include metamorphosis, changes that may appear to be even abrupt, and a capacity for flourishing in an absolutely new environment. And, if the current

extension of the word may be allowed, if the paradox may pass, it includes involution, degradation, or degeneration. That is to say, the same forces that bring about the advance will, when they are withdrawn, weakened, exaggerated, or disturbed, induce the decline. Even growth may become extravagant, may o'erleap itself and fall on the other side.

Hence if the word evolution is to be applied to Art, it must embrace not only its origin and growth, but its transformation and decay. And then, what is Art? It is surely not enough to say with the Rev. St John Tyrwhitt (*Handb. Pict. Art*, p. 22) that "Art is the pursuit of beauty, nobleness, and truth in colour and form." To this I prefer my own definition, that Art is the methodic use of sensation to further Emotion, as Science is the methodic use of sensation to promote Thought. But for the present purpose it is better to take the etymological meaning given in Dr Murray's Dictionary: "Art is the application of *skill* to implements of utility, to subjects of taste such as poetry and dancing [though these will be excluded from consideration] and to works of imitation and design such as painting, sculpture and architecture." And we may regard the simplest kind of skill as that which results from primitive experimental actions, or even from automatic movements.

Art may be further divided into, 1. Artifice, 2. Artistic treatment, 3. Ornament, 4. Embellishment, and 5. Fine Art. But this is for convenience only; for we are dealing with a product of Mind, and it cannot be cut up into squares or marked off with a ruler. In every such division there will be marginal aberration and overlap.

1. Artifice is the work of an artificer whose intention and production are altogether utilitarian. It has certainly grown by accretion. One bit of experience, of ingenuity, of skill, stands, so to speak, on the shoulders of another; just as, with the material of his implements, flint was followed in succession by copper and bronze and steel; or as, in his architecture, clustered reeds or branches were followed by timber and stone and iron. On the other hand, we may take as metamorphic the abrupt change that occurred when work was first artificially done by forces that were not neuromuscular, not vital; by the windmill, the water-wheel, and the steam-engine.

2. Artistic treatment is the shaping or arrangement of the details, parts, colours, or outlines of implements or structures, whether utilitarian or not, so as to "please the eye," to excite agreeable feelings through the sense of sight. In such cases, as might be anticipated, the psychic state often has its origin in utility. For utility is always pleasing. Of all things that concern mankind it is the most important.

That particular tapering, the *contractura*, of a column, or of the handle of a hammer, which most gratifies "taste" is probably not very different from that which is most functionally useful. The eye has always been accustomed to see outlines that represent the most functionally useful. They have ever been present to the observer in the structure of those animals that we chiefly admire for fleetness or strength, in the form of those stems that best carry aloft a crown of foliage. The lines of a yacht are called graceful. They have been reached by much experiment and they are functionally the most useful. But fish that swiftly cleave the waters have lines that are similar. The contour of the flint arrowhead whose shape we call beautiful, whose function was to outstrip the flight of birds, does not greatly differ from that of the frames of animals that swiftly cleave the air.

Indeed it would seem that the outlines which the muscularity of the eye follows with delight as being those of least fatigue, closely resemble the outlines of least resistance for bodies that move through a resisting medium. An oar has to offer the highest resistance in one direction and the least in others. The form of the paddle of the Southsea Islander is the result of Artistic treatment, arrived at, we may suppose, without any special intention of utility; but the pleasing and the useful, true Artistic treatment and strict utilitarian workmanship, coincide.

The aim of an architect is of course fundamentally utilitarian, but Artistic treatment may sometimes govern the position of his tower or the pitch of his roof. In matters of this kind his performances will depend in great measure on the sense of beauty, or in other words on the "taste," of those persons by whom he is employed or has been educated. For beauty is the correlative of taste, and taste can be expressed only by active choice whether in form or in colour; whilst choice varies in accordance with what the individual or the race has been most familiar with, and this has been largely determined by proved and admitted utility.

The tower was at first erected as a place of outlook or of defence, and the roof was originally a wooden protection either from snow and rain on the one hand or from light and heat on the other. It is evident that in the shape and arrangement of these structures degradation may easily take place when Artistic treatment follows a taste that is deprived of the action of utilitarian forces. When towers are no longer needed for security or outlook, and roofs are built of other material by new methods, Architecture, in a transition state, is apt to create the unmeaning and ugly.

With what colours is an object endowed by Artistic treatment? Apart from the limitations of the palette, apart from newly invented pigments that give only the pleasure of surprise, those are used that in any stage of culture are most refreshing to the sense of sight. If we look intently at a green figure and then cast the eyes on a neutral surface, we see the same figure in red. To men who behold only the green of Nature, a red spectrum is always potentially present. Their retina needs this complementary colour as a refreshment, and the primitive artist, in his fondness for red, employed it in unconscious obedience to a physiological law. A complex culture demands delicate and varied tones.

It is well to give an example of the occurrence of metamorphosis under the influence of Artistic treatment; and an excellent one may be culled from Professor Haddon's work. It appears that in Torres Straits the betrothal equipment of a girl consisted for the most part in objects of utility for her married life, namely, articles of clothing, together with fish-hooks and other implements made of tortoise-shell. Among the latter were some curious things called *sabagorar*. When a series of them is properly collated, it is found that they have been evolved from ordinary fishhooks.

It was natural that portions of the girl's dowry should be made especially attractive, and accordingly some of her fish-hooks were bound, as regards the orderly turns of the ligature, with unusual care. Thus began a separation between functionally perfect fishhooks and those that were avowedly intended only for display. The pursuit of utility once abandoned, its controlling limitation was lost, and the changes wrought by Artistic treatment progressed apace. Love of symmetry soon reduplicated the curved part. A single shaft bore two hooks back to back, and these, no longer required for use, were first greatly bent in towards each other, so as to be out of the way, and finally joined together and fused with the stem, like the handles of a closed pair of scissors. In the end a transformation was accomplished so complete that the *sabagorar* possessed neither the function of a fishhook nor, in the least degree, a resemblance to one. Still there was no *saltus*. Art no more than Nature proceeds by leaps and bounds. Continuity was maintained though metamorphosis was reached. A hooked and cruel weapon had been changed into a hookless and harmless Embellishment.

But here let it be noticed that the turns of the ligature, or rather their visual equivalent, that originally bound the hook to the fishing-line can still be plainly discerned, although it is true that under Artistic treatment and free from utilitarian

control they, in common with the *sabagorar*, have been greatly modified. They have become Ornament and are perpetuated to satisfy "expectancy." Even *sabagorar* would not have "looked finished" without them.

3. Works of utility are necessary. Man is compelled to make things. We understand why, in the making, they should be artistically treated. It is not quite so obvious why they should become the subject of Ornament. Ornament is a decoration put together by the hand and applied as an accessory to other things, to some implement, utensil, or structure, which could exist quite well without it. Though Ornament is unlike Artistic treatment in this, that it is a concrete thing, the two resemble each other in their quality of absolute dependence. The principal properties of Ornament are symmetry, repetition, and "feeling." When ornamental details or *motifs* are analysed and their phylogeny successfully followed, they are found to be derived mainly from technical methods of construction in handicraft, but also from plant-forms and even from animals. If we are to speak, then, of zoomorph and phyllomorph, all the more must we employ some such term as skeuomorph. This word has been called barbarous and unnecessary. It is however a useful one, and the Greeks, who were not an altogether barbarous people, used *σκεῖν* in a dozen compounds. This plural designated tackle, tools, vessels, equipment, dress; and it would be difficult to find another word that connotes as much, and yet no more than is wanted.

How is it that Ornament has become so greatly desired as to be almost necessary? Why is repetition one of its essential properties? And whence comes the "feeling" that it possesses?

Repetition presents itself in two aspects, in symmetry and in series. Symmetry consists of two similar parts which are mutually obversed, and is therefore only a method of repetition. Such parts, contrasted as right and left, have never been absent from human consciousness. All ordinary animal and vegetal organisms are, roughly speaking, symmetrical. Moreover symmetry has an obvious convenience in manufactures; it is called for by the law of gravity; it is absolutely necessary in architecture, in roof and arcade. Thus Contiguity and Similarity combine to make symmetry a thing to be desired.

But likeness suggests unlikeness, and it has often happened, among artistic peoples, that asymmetry has found admirers. Change is refreshing, and variety can occasion a surprise that, within limits, is agreeable. Still, sooner or later, the fundamental expectancy reasserts itself, and the supremacy of symmetry is restored.

Serial repetition is a necessity of manufacture. To fasten a flint flake to a handle of horn was probably one of man's earliest achievements. Wattlework and basketry came next, and the stitching together of skins for clothing. Then followed matmaking, plaiting and weaving. In these artifices, the coils of the ligature, the returning stitch, the intervals that separated the osier-rods, the convolutions of the fillet, the interlacing of branches or rushes or threads, on which all hands were employed and all eyes were bent, comprised serial repetition of the most rigorous and regular kind. Hand and eye working together grew accustomed to certain geometric successions of lines and scrolls, of squares and frets. But these things did not constitute Ornament, for they were essential and not accessory to the structure; they were technical requirements; their visual equivalent was not yet bestowed on something else. Artistic treatment, however, could already operate by making the outlines of the basket "graceful" and, to give the pleasure of surprise, by changing the precise order of the regular repetitions of texture.

But when the mind, long accustomed to certain appearances of serial repetition, began to look for them on other things and felt a sense of loss in their absence; when their visual equivalent, such as cross-hatching, was cut on a comb, or when chevrons were scratched on a bone needle, transfer, metamorphosis, was accomplished and Ornament was born.

At some time, in most cases but not in all, between the advent of basketry and that of textiles, pottery came in. The earthen bowl was suggested by the wicker basket, and special baskets were made to receive the coating, or lining, of clay. Where gourds were accessible, pottery moulded itself upon them. But the early European vase, whether or not it had a round or pointed, or a flat base, was ornamented. Hand-made and imperfectly baked vessels had to be supported in a network of fibre, and they were enwound, chiefly at the neck and shoulder, by thongs or cords. As the manufacture perfected itself, these aids were discarded. But hand and eye were accustomed to them, expectancy required their visual equivalent, and ceramic ware was adorned by skeuomorphs of netting and binding. The vase is, in most cases, the lineal descendant of the basket, and a special scroll or coil was the structural method of finishing or bordering basketry. Hence in early art as well as in that of to-day, scrolls and coils whether painted or incised are found as a decoration, especially on the vase's neck, shoulder and foot. And when buildings came to be constructed no longer of timber but of stone, the artifices that were functional in wood-work—panel, beam-ends,

roof-tree—reappeared as functionless accessories in the new architecture. They reappeared at the bidding of expectancy, which thus selected the skeuomorph and originated Ornament.

Are further examples required? The readiest answer is, *Circumspice!* Let us glance round the room in which we are sitting. We probably see no shape that suggests an animal origin except the legs of a table, which happen to be terminated by brass claws. This, though closely verging on Ornament, is really a case of Artistic treatment. Legs must end in something, and claws are a natural termination. The wall-paper and the carpet are decorated with floral patterns. But it should be noticed that these are provided with a formal and well-marked border, and that, regularly repeating themselves, they appear to rest on some larger or smaller reticulations, to stretch themselves out, as it were, on an invisible understructure, even as, in old Cornish sculptures, the Crucified One is extended on a cross that is "understood." Perhaps, too, foliations adorn a bracket of wood or bronze.

All the remainder of the Ornament with which the room is furnished is skeuomorphic. The handles of the fire-irons have a twisted design upon them that suggests thong work or filigree. The window-blind, though an ordinary piece of cloth, hemmed along the lower edge, is endowed with a row of tassels. The marble mantel as well as the wooden dado displays a multitude of small panels. The iron-work of the stove is enriched by fluted pilasters. The table, desk, and cabinet are bordered with mouldings that are doubled and quadrupled by repetition. The top of the bookcase bears aloft a Greek gable, and the cornice that runs round the ceiling is partly composed of a row of diminutive dentils.

It is needless to elaborate proof that each of these instances of Ornament sprang from structural handicraft and became rooted in the mind by association of contiguity, and that thus an expectancy was raised for them of such urgency that transfer took place as occasion offered.

The splicing of the handle to the implement originated the skeuomorph of binding which we see on the fire-irons. It is the oldest and most widely spread of all Ornament. It is found on pre-historic tools of bone and bronze; and it can be recognised in the torus that emphasises the corners of the buildings of ancient Egypt, carrying us back beyond constructions of stone and timber, to the days when houses were built of reeds.

The tasselled fringe was the best and easiest way of securing the borders of loosely woven textures, and was much affected in Assyria. Indeed, the structural necessity of making

pieces of handiwork safe by means of a specially contrived rim or edge occasioned an expectancy so masterful that nothing "looked finished" without one; and a frame like that which constitutes a panel can be used as Ornament even by itself, whilst, in multiples, it forms a favourite *motif* in Grecian and Gothic architecture, and, in complexity of setting, adds to the wonderful charm of Saracenic carpentry.

The dentils of the cornice indicate the beam-ends of the timbered houses of pre-historic times, and the gable represents the supports of the roof-tree. The skeuomorph of the gable is generally single; but in many cases, as on the west front of the church of St Maclou, at Rouen, it can multiply itself with magnificent effect.

It must not be supposed that, in the days when Ornament began, the artificer supplied an external demand, or followed an intuitive public taste. All men were artificers. Their impulse was internal; and this not less when industry was first divided, and handicrafts were kept in families, in castes and guilds.

"The sensations of sight," Dr Bain truly observes, "make more than any other thing, perhaps more than all other things put together, the materials of thought, memory and imagination. Vision is the most retentive of all the senses. Objects thought of on account of the other sensations they furnish are *conceived* under their visual aspect" (*Senses and Intellect*, 2nd Ed. p. 361). "Touches are associated with sight, connecting the tactile properties of things with their visible appearance, whereby the one can instantly suggest the other" (*Ibid.* p. 368). "The tendency of an idea of the mind to become the reality is one of the controlling forces of our constitution; it is a distinct source of active impulses" (*Ibid.* p. 348).

Mr Spencer, in his own terminology, supports the same view. "Other things being equal, the revivability of a feeling varies with its strength, and varies also with the number of times it has been repeated in experience" (*Psychology*, I. 233). "The most highly relational feelings are the visual, and these are of all feelings, the most easily reproduced in thought" (*Ibid.* I. 129). "Revivability varies as associability" (*Ibid.* I. 250).

It was inevitable, therefore, that in this regard there should be formed in the brain a psycho-neural *syntaxis* or "disposition," easily susceptible of excitement. It was inevitable that there should arise in the mind an "expectancy" of the visual equivalents of certain technical devices in the matter of joints, angles, borders, rims and edges, even when the things made came to be constructed in other ways and of new material.

Skeuomorphs, then, though they sprang from structural needs, have lost all function and exist only to satisfy the mind. Loosed from the trammels of utility, it became possible to transfer them to fresh and often incongruous fields. Thus, the visual equivalent of "binding," which is not indeed a ligature at all but has come to supply the place of it in a psycho-neural syntaxis, may be seen on a shaft of marble, and dentils, or their lotiform representatives, may leave the cornice to adorn the vessels of the potter. Moreover, detached from function, skeuomorphs themselves were the more easily affected by Artistic treatment, whereby metamorphosis was greatly accelerated. Expectancy, too, strengthened by its food, grew more exacting, and constrained Ornament to creep over the whole of nearly every surface, often by an extension of its outlying elements; and so the "filling in" tendency of decoration was developed. Everywhere, bareness became abhorrent.

The earlier, simpler skeuomorphs are naturally the most durable and the most widely distributed. They never fail to give pleasure when suitably employed, and they have exerted a strangely transforming influence on Ornament otherwise derived.

"Epiperipheral feelings," says Mr Spencer (*op. cit.* p. 251), "which occur together or in succession become linked in such a way that the vivid or the faint form of one arouses the faint forms of the rest." We see a familiar face and "along with the recognition there arises the consciousness of a redness on the cheek that was before present, but is now absent. This colour was a term to various relations of difference involved in the consciousness. Hence, when these are again presented, the assimilation of them to the like relations before seen, entails a consciousness of the missing term" (*Ibid.* p. 269).

Further, Mr Stout, speaking of complex perception, observes (*Analytic Psych.* II. 20) that "if one part of the complex whole be given, we have such a prenotation or schematic anticipation of the remainder as enables us to mentally inquire for it." And he remarks (p. 126) that "both in scientific and in ordinary observation there is always ideal anticipation, side by side with the actual series of perception."

Expectancy is a case under the Law of Similarity. It is a demand for familiar Sequences, for familiar Coexistences, even for familiar Differences; and if the craving is not satisfied, the result is an acute sense of loss.

A good example of expectancy in sequences is afforded by Professor Sully's account of the little girl's grief when her grandmother did not correctly repeat her favourite story. The *Vestslevigs Tidende* gives a better one: "In a church on one of

the Danish islands, it was the custom of the men, on walking up to the altar and coming back again, to bow at a certain spot to the women sitting on one side of the aisle. No one could tell why. Last year [1895] it so happened that a layer of plaster was removed from the wall on the women's side, and a picture of the Virgin Mary was brought to light, which had evidently been the original cause of that reverential custom—a custom which had been continued for a period of four hundred years, long after its significance had been forgotten." Here, the function had vanished, there was no Virgin and no adoration; there was expectancy in sequences; the men would have felt uncomfortable had they not bowed at a particular point of their promenade through the church.

How powerfully expectancy can exert itself towards coexistences can be seen in the severe and sometimes fatal nostalgia that afflicts the Switzer who is exiled. An expectancy of differences, of that utmost difference which we call contrariety, seems to explain the desire for asymmetry. It may account for the proverb, "Pride goeth before a fall," since experience cannot do so. It may be a reason for the extraordinary hope which often buoys up those whose affairs are desperate, that the worst has come and fortune is about to smile. And it may help us to understand how the possession of wealth, especially when riches are suddenly acquired, sometimes excites the idea of impending poverty, leading to penurious habits, that is, to poverty itself.

It is a present fashion to go to the Nile for examples of the phyllomorph. Professor Petrie justly observes, however, (*Egypt. Dec. Art.*, p. 50) that "the geometrical forms of wavelines, and chequers copied from weaving, and the varieties of the spiral, were the first ornaments of importance in Egypt; while the actual forms of feathers and flowers were not generally imitated till a later time." Here, in a parenthesis, let it be noted that what may be called the feather skeuomorph, that is, Ornament derived from garments made of feathers cunningly fastened together, becomes at last a purely geometric device of chevrons and triangles.

Notwithstanding the late advent of the phyllomorph in Egypt, we see that vegetal forms were liberally represented in the wall-paintings, at Medum, of the 14th dynasty. Plate XII of Professor Petrie's monograph shows us a man sitting beside the papyrus and other fluvial plants; geese feeding on the herbage of the meadow; and (pl. XXIII) cattle browsing on the boughs of trees. The drawing is fairly realistic. But though signs of conventionalisation can be detected, no phyllomorph has yet appeared.

It is true that "the *khaker* ornament" which, in these

paintings, decorates the tops of boat-cabins, was derived from stems and plumes of the papyrus. But, as these were structurally arranged, in order to form a screen, the pattern is properly a skeuomorph. It was destined to a great vogue, and in the XIIIth dynasty had become the accepted if not the invariable adornment for the frieze of painted walls. In the same dynasty skeuomorphs covered the ceilings. At Beni Hasan and at El Bersheh the decoration is thus described: Across the centre of the ceiling runs the representation of a wooden beam coloured yellow, with brown graining. On either side of the beam the space is divided by thin black lines into small red and yellow squares containing quatrefoils [so called, but thought to be skeuomorphs of stitching] which are black in the red squares and blue in the yellow. This is continued to the walls; but in the centre is a large rectangular space of a different pattern, intersected by the "beam" and bordered by two white lines enclosing a narrow black band within which is a wavy white line. This space is divided transversely into three nearly equal compartments. In the central one is painted a cheque pattern of yellow and red. The remaining spaces are filled with imitation mat-work, plain yellow bands decussating with bands of brown-striped yellow, representing two kinds of reeds which run in alternating directions as regards the four compartments (*Arch. Survey of Egypt, Beni Hasan*, i. 29). Here, then, we have skeuomorphs of timbering, of stitching, of weaving and of matting—but no phyllomorph.

Meanwhile the constant presentment of the lotus as a national, a beloved, a sacred emblem, led by degrees to an overwhelming expectancy, and by the time the XVIIIth dynasty is reached the lotus has invaded almost all Ornament and has especially fastened upon the scroll. Indeed a cursory glance at Theban ceilings may discover nothing but this particular phyllomorph, although in its borders and regular decussations may be discerned an underlying and controlling skeuomorph; whilst the serial repetition thus imposed upon it brings it within the category and definition of true Ornament.

The parasitic vitality of the lotus, acquired by this profound expectancy, was so great that it adapted itself to every environment and changed its form to suit the many structures on which it flourished, whether they were the tassel, the dentil, or the fret; becoming the pendant or the erect anthemion, budding between the decussations of a spreading scroll, and following the intersections of a trellis. Nay, more. It engrafted itself on other plants, masking the papyrus and disguising the thistle; and under Artistic treatment assumed shapes so conventional, so distorted and metamorphic, that in other lands, as Mr

Goodyear has brilliantly shown, its origin and meaning were obscured and forgotten, and its utter degradation was wrought at last. And though Egypt had other phyllomorphs, such as the papyrus-dado and the palm-capital, they survived with difficulty against the might and versatility of the lotus.

If it is comparatively easy for plant forms, by reason of their parasitic habit, to yield to the conditions of Ornament, to descend from the stage of Fine Art and realistic presentation, and to become subject to convention and repetition; it is quite otherwise with animal forms.

The carving or delineation of animals was a very early achievement. It was practised by the remote race of Cave-men, whose work asserts a preexistent skill in the use of tools invented for utilitarian purposes and employed in handicraft.

If little Ornament has hitherto been found that can be attributed to that people, it must be recollected that besides the imperfection of the record as regards a time so remote, and the inevitable loss of all perishable material, men who lived in caves and wore garments of skins, who made neither dwellings nor textures, whose only implements were connected with the chase, were largely destitute of the basis of Ornament, of most of those constructional devices that created the expectancy of serial repetition.

Their purpose in carving or delineating animal forms can only be surmised as not very different from that which actuates the modern "savage." In some cases it was a desire to convey information; in others it was a totemistic or genealogical expression of veneration or pride; and again in other cases it was an endeavour to influence events by a magic that required a presentment of those animals that were to be captured, avoided, or destroyed.

But any such image-making belongs to the province of Fine Art. How then is it to be transmuted into Ornament? The first step is the removal of the artist's attention from the realistic model, so that, for whatever reason, he is content to produce only a visual equivalent; and this, when the continuity of workers and observers is unbroken, may depart by degrees so widely from the original figure as to end in a veritable metamorphosis. The course is further determined by the size, shape and contour of the surface on which the work is imposed, by the material on which it is wrought, and by the tool that is employed. Whether the surface is extended or restricted; flat, angular, or round; of clay, bone, or wood; these things, together with the nature of the implement, whether it be a flint knife, for example, or a reed brush, influence the curves or strokes of the artist's product. And then, if other crafts have also made

progress so that an imperious expectancy of repetition has arisen, a serial representation will be attempted, and all at once the animal presence enters the ornamental field and the zoomorph is born. Indeed almost any form, however ungainly, may when serially repeated become attractive. Thus, a contorted and repulsive figure of a bat is, solely by serial treatment, converted into charming Ornament by the Chinese (Balfour, *Evol. Dec. Art*, p. 50).

As the divergence from realism increases, as repetition becomes more rigorous, and as, with this multiplication of the individual figure, its abbreviation is brought about; when chains of bodies placed vertically or horizontally are fused into corresponding straight lines, and when adjacent limbs are conjoined into scrolls or zigzags; when these are hardly to be recognised as the visual equivalents of bodies, or arms, or legs; then they soon approach the outline of some dominant skeuomorph to which they are finally assimilated.

Such metamorphoses have been worked out by Dr Stolpe, of Stockholm (*Ymer*, the Journal of the Swedish Society of Anthropology and Geography, 1890, p. 193), and by Mr Read, of the British Museum. And it is such metamorphoses that justify Mr Holmes in affirming that "any animal form extensively used in decoration may give rise to any or all of the highly conventional types of ornament, even to such as the scroll, the fret, and the guilloche" (*Ann. Bureau of Ethn.* iv. 184).

An analogy may be found in language. A predominant word or tone tends to assimilate approximating sounds to itself. The familiar absorbs the less familiar vocable, when they have a sufficient degree of resemblance. In Somerset, Burgh Walter becomes Bridgewater.

As Mr Stout puts it (*op. cit.* i. 285): "Suppose the components of one combination are $a b c$, and of the other $a b x$; c may be so favoured from the outset that it simply displaces x without any feeling of discrepancy arising, and without any attention to the difference." This process he calls "coalescence."

Degradation is undergone when a zoomorph, having ceased to be the visual equivalent of a realistic original, and having at the same time never been subjected to serial repetition so as to have become assimilated to any prevalent structure-form, breaks up into a medley of *membra disjecta*. But the passage of a zoomorph into a skeuomorph is not degradation; it is a completion of a normal metamorphosis in the evolution of Ornament.

And here the interesting fact should not escape notice that things as unlikely to be transmuted into Ornament as are

amulets and magical documents, tend to serial and geometric development. Such a device, one against a skin-disease, is given in Professor Haddon's work (pp. 243, 240). To an inexperienced observer it already seems far more decorative than "pictographic."

A recent reviewer, himself an archæologist, declares that the chief defect of Professor Haddon's work is that "he wholly ignores the geometric origin of pattern-making." The objector is evidently one of those who believe that primitive man, having made a wooden comb, sat down before it in despair until he had invented some design with which it might be adorned; and that the first things that presented themselves to his introspection usually bore a geometric form. Circles or spirals, triangles or squares welled up in his mind, and satisfied his innate craving. The reviewer and his friends, when the matter is pushed against them, cannot avoid the affirmation, may indeed be proud of it, that such a desire to decorate a useful surface must have been intuitive and aboriginal.

But the truth is Professor Haddon does not ignore the geometric origin of pattern-making; he denies it. He rightly declares (p. 309) that "savages do not deliberately invent patterns or designs, for artistic expression is the result of a pre-existing visual impression." "The contrary assumption is no longer permissible" (p. 164). And Professor Goodyear considers that "geometric patterns made for purely decorative purposes are absolutely foreign to the nature of primitive and prehistoric man" (*American Architectural Record*, iv. 88).

Of circles or concentric rings, perhaps the most easily made of these patterns, "no examples are known in Egyptian decoration before the XVIIIth dynasty and but few then" (Petrie, *Egypt. Dec. Art.*, p. 47). Spirals preceded them, and spirals, wherever they underwent debasement, degraded into them. But the reverse process never occurred, circles never opened into scrolls (Montelius, Haddon, Goodyear).

Are spirals and scrolls, then, claimed as aboriginal Ornament? Is it denied that they sprang from structure-forms, such as those of wicker-work or basketry? Is appeal made to scarabs? To scarabs let us go.

Professor Petrie's *Historical Scarabs* contains drawings of 2,220 of them, arranged in chronological order. It is on the base of scarabs of the vth dynasty that the scroll makes for us its first appearance in Egypt. It requires some hardihood to assert that it originated all at once either then, or on those signs and seals; or, if it be regarded as a skeuomorph, that its first transfer was to such a narrow and difficult field. What, however, was its significance there? To the eye of a race that

had received a long and patient training in structure this inscribed base looked bare and unfinished unless it was encircled by a border, and a border in the form of a well-marked line was hardly ever omitted. Indeed, it was sometimes doubled (*op. cit.* figs. 394, 464). But frequently the margin was emphasised by a "rope pattern," a skeuomorph of binding; and still oftener by a "scroll pattern." On sheet 13 are represented 21 inscribed scarabs, and of these 6 are bordered by a single line, 1 by a double line, 10 by a rope, 1 by a rope inside a single line, 1 by a scroll within a rope, and 4 by a scroll within a single line, though in one of these instances the single line disappears in places where there is no room for it.

It is sufficiently clear that the line, the rope, and the scroll are marginal equivalents; and, until the contrary is proved, it is fair to assume that they were derived from processes in which borders were functional, from structures which required, for marginal security, stronger turns of the fibre, of the rope, of the withy band. And be it remembered that the early Egyptians were great basket makers, and that their ancestors of the land of Punt constructed houses of wicker-work.

On the oldest scarab that can be certainly dated, one of Assa, of the vth dynasty (Petrie, *Hist. Scarabs*, fig. 48, *Egypt. Dec. Art.*, p. 18), the border consists of a single line within which is a discontinuous scroll so arranged as to give the needed space to the contained inscription. Scrolls are inherently a spreading decoration, difficult to cut on hard material; and where it was necessary to make room for more important matter the curved line thins out or disappears.

A great development of the scroll took place at the "obscure town of Kahun" (Petrie, *Kahun, Gurob, and Hawara*, p. 29) where foreign workmen were employed. It seems most likely, says Professor Petrie (*Ibid.* p. 44), that during the war of Sankhkara, the last king of the xith dynasty, with the Hanebu or "lords of the north," who were the Ægean peoples, the Egyptians became acquainted with the Mediterranean races. It is certain that in the xiiith dynasty foreigners were employed in public and domestic works, and that commercial intercourse was maintained across the sea. Indeed, similar scarabs of the same period have been found in Crete. The style of the pottery discovered at Kahun gives proof of exotic influence, the potter's marks are foreign, the blue marble came from abroad, and of all the weights that have been found not one is pure Egyptian. Egypt has profoundly modified the Art of the world; but not less true it is that a reflex current has flowed to the Nile. "Some of the metals were known in Europe before they were used in Egypt; and bronze tools of the best form were made in

Italy two or three centuries before Egypt possessed them." (Petrie, *Ten Years' Diggings*, p. 153.) Eastern Europe, from the Ægean to the Baltic, that from remote ages traded in Scandinavian amber, in the tin of Hungary and in the jade of Eastern Turkestan, had a civilisation of her own.

These captive or immigrant artificers of Kahun in the XIIth dynasty, seem to have been fond of the scroll; and, ignorant perhaps of the meaning of the inscriptions they cut, or lacking skill to inscribe them, or making the scarab only for export, they sometimes covered its base with nothing but the wandering curves with which they were more familiar. We see, too (*Illahun, Kahun and Gurob*, Pl. x. fig. 159), the scroll undergoing that curious triskeloid treatment that was probably borrowed from filigree, that pervaded the metal-work of Eastern Europe in her bronze age, and that was destined to develop into characteristic patterns under Celtic culture.

Elsewhere and afterwards Egyptian Art limited the scroll to its Egyptian type, until the lotus began to bud between its convolutions. When the culminating beauty of this combination was reached, in the XVIIIth dynasty, it bore transplantation to Europe and established itself in the Ornament of Mycenæ. But before this time, before the lotus had acquired its parasitic energy, where, as on early Cypriote vases, this alien phyllomorph violently entered the ornamental field, it was broken to pieces. Pre-existing skeuomorphs, that could not be eliminated from expectancy, defaced it. The confluence of art streams produced, not a reinforcement, not a flowing tide, but a destructive cross sea; and ceramic decoration in that part of the Mediterranean was for long a hideous jumble. The Cypriot had never seen a lotus, its highly conventionalised forms were not visual equivalents for him, and in his perpetual copying of copies, the *motif* sank to the lowest degradation.

What conditions can we discover that are favourable to the evolution of Ornament, that raise it in beauty and dignity? (1) Certainly there must be leisure, the time for contemplation, receptivity and productiveness that itself implies a racial superiority, that itself is proof of a better ability to get and keep comfort and security. (2) There must also be a well developed faculty of attention, which is that act by which a particular sensation or ideation is prolonged as far as volition can prolong it, and disturbing sensations or ideations are excluded as far as volition can exclude them; whereby the power of retention and the facility of coalescence are augmented. (3) No doubt artists are moved or stimulated by competition in supplying a demand which expresses "taste," and in satisfying a thirst for the novelty and variety that give the transient pleasure of surprise. They

are often tempted to pander to the "vagaries of fashion" which soon die away, and then the art reverts to its normal course. Still, variety even so originated, is exposed to a "selective" operation, which to some "sports" may give a long or a permanent life. (4) Enrichment often comes from what Professor Haddon calls "cross fertilisation," a confluence of art-streams that strengthen each other, a duplex concurrent expectancy that produces a resultant greater than either component.

But, above all, there must be (5) progress in other crafts besides that one which especially engages the artificer. It was Mr Holmes who first pointed out that "the character of ornamentation depends less on the age of the art than upon the acquirements of the race in other arts."

"A feeling," says Mr Spencer (*op. cit.* p. 256), "cannot form an element of Mind at all, save on condition of being associated with predecessors more or less the same in nature." "Every relation, then (p. 267), like every feeling, on being presented to consciousness, associates itself with like predecessors. Knowing a relation, as well as knowing a feeling, is the assimilation of it to its past kindred. But since within each great class the relations pass one into another insensibly, there is always, in consequence of the imperfection of our perceptions, a certain range within which the classing is doubtful—a *certain cluster of relations nearly like the one perceived, which become nascent in consciousness in the act of assimilation.*"

This nascence in the act of assimilation is, in reality, a fusion of percepts. The artist looks at a flower, a lotus, and carries about with him its idea. When he sees the same lotus again it is never in precisely the same state or aspect. When he sees other lotuses they are never exactly like the first lotus. Hence the percept becomes a concept.

It is a common but a vague thing to say that successive presentations of an object are attached by the association of similarity. It is better to suppose that they fall upon the same portion of cerebral substance, that they affect the same psycho-neural syntaxis. As Mr Spencer expresses it (p. 258), "The instant automatic aggregation of each peripheral feeling with those of its own order, answers physically to the localisation of the nervous excitement causing it, within that subdivision of vesicular structure which is the seat of other feelings of its order."

But successive presentations of the same lotus in states and aspects that necessarily vary, or of a number of other lotuses, could not produce a percept of some particular lotus, nor a concept of that flower in general, unless these ideas became blended or fused, unless the cerebral matter which forms the

physical basis of an idea, unless the psycho-neural syntaxis, underwent such a molecular and organic change that it could answer for various aspects of a single flower, or "substantiate" the concept of a genus.

We are too apt to forget the feebleness of the recollected thing, the idea, compared with the actual sensation. Let us look from the window and fix our gaze on the landscape—the field, the farm, the hill. Now, close the eyes and reproduce the scene with the utmost possible distinctness; and, then, again look forth and, on the instant, compare the two feelings, the sensation and the reproduction, and estimate the differential vividness. How faint and phantasmal are the symbols with which mind works its marvels.

Ideas have to be repeated and strengthened by corresponding sensations, or recollections will undergo an increasing change, the actual pass into the fanciful, the realistic into the conventional. We have all been struck with dismay on finding, now and then, a great want of similitude between the reality and our remembrance of it, when some place or person, long unseen, is visited again.

Molecular changes in the cerebral cells, occasioned by physiological action, are incessant and, inasmuch as no subsequent restoration can be thoroughly exact, must bring about some modification, however slight, of any given percept. We see a particular horse, let us suppose, but once in our life, which produces the percept A . A few hours afterwards we recall this horse to our mind, and this reproduction is a . At the end of a year the horse is again recalled, and this revival is β . If there have been no reinstatement between that of a and that of β , there has continued, nevertheless, the ordinary somatic flux of molecular change; whilst, if there have been frequent reproductions, there has been a still greater molecular disintegration by functioning, with a repair never absolutely perfect.

In addition, many horses like our recollection of the particular one have been seen and remembered, and of all these percepts, more or less similar, some degree of blending has taken place. So that β is by no means equal to a , but may be better than a , or worse.

An artist no longer having an actual mat or flower or animal before him, no longer desiring to imitate it, no longer striving to be realistic but only effective, draws from his ever-changing mental store. His idea may advance in importance or beauty if associated with similar percepts more pleasing than itself, or if, as often happens, the resultant of a fusional process is more agreeable than its components.

Unrecalled to realism, his ideation is influenced by those

forms and lines "nearly like the one perceived that have become nascent in consciousness," by those in which "*a b x* has been absorbed by *a b c*," by those that have undergone, or may yet be undergoing, coalescence. Similar coils of basketry and filigree, similar angles of trellis and texture, similar curves of flowers and scrolls, the skeuomorph to which the abbreviated zoomorph is sufficiently approximating, the exotic which resembles the local decoration—these things become blended or fused. They are not mathematically averaged, but move in the direction taken by the artist's attention; for, "wherever attention is present," as Mr Stout remarks (*op. cit.* II. 118), "some kind or degree of systematic [syntactic] readjustment is involved." And as they grow in his mind, as they re-arrange themselves in his brain, fresh combinations are formed of which he may become fully conscious only when his hand develops them in his work, and the productive outcome and advance are finally seen.

But this particular mental process, fusional ideation, cannot be very different from that which occurs in making inductions; though the latter seems able to rise into the sphere of consciousness, as in the familiar case of Newton's apple, or the skull found by Oken. Certain of their higher concepts, in ascending cerebral planes, were blended at the moment their mind was regarding them, were resolved by a process of apperception which Mr Stout follows Steinthal (*op. cit.* II. 110) in defining as "the union of two mental groups in so far as it gives rise to a cognition."

Decay in Ornament is, of course, the result of unsustained energy. Unsuccessful war has put an end to comfort and leisure; or, the early Artifice that generated the *motif* has passed from observation because it is no longer practised. There is a lack of attention, perhaps of the power of attention, or, the atmosphere of culture which the artist breathes has become stagnant, and the crafts that surround him, stimulated by no demand, wither. Either there has been no "cross fertilisation," or the hybrid it has borne is monstrous and sterile. Until at last the time has come when expectancy is satisfied on the one hand by a few empty chevrons and spirals, or on the other by an extravagance of design that is equally destitute of meaning.

Artistic treatment enhances for us the purely sensuous pleasures of colour and form. What is called "feeling" in Ornament is really a particular kind of emotion which is mainly due to the realisation of an expectancy in coexistences that are marked by symmetry and repetition, and to the gratification of a "taste" that has been created partly by accidental environ-

ment and partly by deliberate education. "Any pleasing experience," as Mr Stout observes (*op. cit.* II. 305) "may give rise to an unsatisfied conation, when its conditions are only partially repeated; as when the corresponding idea is called up, and the external stimulus withheld." The craving, the conative energy, of any expectancy is to be measured, first by the pains that are taken to keep it continually satisfied, and next by the distress that follows any lack of satisfaction. Perhaps an illustration drawn from an acquired organic craving may be permitted. The man whose food is carefully sweetened may be unconscious of the full strength of an appetite that is thus habitually met, until some omission shows him the eagerness of his predilection. When the soldiers of Russia, who for months had lived on the most restricted fare as they vainly strove to force the Balkan passes, burst at last into the plains of Roumelia, their cry in every village was for sugar. And this condiment may find its 'gustatory equivalent' in honey, or even in salt.

But emotion produced by Ornament has further factors. Sometimes, as regards the skeuomorph, there is a subconsciousness of a utility in which it originated; and as regards the phyllo-morph, of the charm of the flower from which it sprang. Sometimes, nearly always in skeuomorphs of timbering, there is the softening effect of diminutiveness. Sometimes the mind is delighted by an increased complexity, at others by a simplicity that has become severe; by a perfection of detail in textures and frets, or by the 'coming out right' of the entwisted fibre.

Ornament, that yields so readily to artistic treatment, can also be dealt with by Artifice, and can be made, not to revert to its primary utility, but to subserve a new one. An example occurs in that protruding string-course which is a skeuomorph of timbering. It is largely employed in Gothic architecture. Thus, it runs round all the exterior walls of Furness Abbey. On the entrance towers, the oldest portion of the building, it occurs as a prominent line of stone moulding, and it is nothing more. This is also the case on the walls that constitute the latest and debased part of the abbey. But elsewhere, the string-course is undercut or 'throated,' so as to shed rain and cause it to drop earthwards instead of streaming down the walls. The first builders did not think of thus utilising Ornament; and the last were not earnest enough to expend their labour upon a utility that met no one's eye.

4. Embellishment is finery, or that which "makes fine." All unconsciously, by physiological forces operating through sexual selection, many birds have acquired a highly attractive plumage. A conscious desire to excite admiration has led man-

kind to the use of personal and individual decoration. Things worn by way of bedizenment, crystals for example, and shells, are sometimes called 'ornaments,' though in the sense of the word as here defined they are not Ornament but Embellishment. Jewels that shine on the harness of a horse; the feather fixed in the hair of a savage, or on the head of a modern barbarian; the labret, eardrop, armilla; rings on the fingers and bells on the toes; trinkets, coronets, baubles—such pieces of finery are deliberate, adventitious, and detachable; they are sexual, bellicose, proud, aggressive, or wanton. Nevertheless, they are sometimes elaborated by Artistic treatment. Sometimes they give origin to ornamental *motifs* by establishing an expectancy; sometimes they exhibit an illusory appearance of utility; and sometimes they assert an untenable claim to be regarded as examples of Fine Art.

5. The works of Fine Art can be sharply differentiated from Ornament. They have an altogether independent existence and are not subordinate to serial repetition. It is their aim and end to excite a high order of emotion, and therefore they are modelled upon nature and kept in touch with natural phenomena. They grow mostly by accretion in excellence and in complexity. Metamorphosis is not clearly apparent in them, but perhaps a near approach to it is found in the modern method of "blotting," on paper and on canvas, adopted by impressionists of the Vibristic school, whereby a realistic effect is produced by entirely dissimilar and unexampled means. Though the cleverness of the works of Fine Art excites, as cleverness does elsewhere, perennial admiration, they possess the further quality called "feeling" which is proportionate to their ability to arouse those emotions that are caused by Nature herself.

Emotions or "central feelings," says Mr Spencer (*op. cit.* p. 251), "arise within the great cerebral masses." He regards them as not very cohesive. "Those which have been experienced together or in succession either do not recall one another into consciousness at all, or do it but feebly after many repetitions" (p. 251). "They are excited not by physical agencies themselves, but by certain complex relations among them. It is impossible to bring instantly into consciousness the passion of anger, or that of joy, in however faint a form. Reproduction can be achieved only by imagining and dwelling upon some circumstances calculated to produce it" (p. 231).

Here, then, Fine Art has its opportunity. The sculptor, in "round" presentments of animal forms, and especially of the human figure, suggests emotion by attitude of limb, by contours of muscular action, by facial and corporal expression; and the

same may be said of the painter in works of *genre*. We feel anew the passion of life, *la comédie humaine* is again enacted.

This is intelligible. It is more difficult to understand why landscape-painting should also possess feeling in a high degree, though it be almost confined to what is soft and tender. We are familiar with "the setting sun's pathetic light"; when every instant its intensity is lessening, when it falls aslant upon the land, when the flowers of the field stand out in the oblique illumination, when for a few moments new textures and colours are displayed by the forest, when distant curves and hollows are revealing themselves that noontide never discloses, and when around us a growing stillness gathers.

And what, too, is the singularity of the glance that we take of a beloved scene on leaving it; what instinctive selection do we make; on what does the eye linger in the last look? To reflect some aspect of that peculiar light, of those transient hues, of the vanishing elements that have formed part of our existence, is to make a painting pathetic also.

But a more important matter, though a less obtrusive one, is the tender feeling that is aroused by the sight and contemplation of minuteness. The grammarian recognises in our language the diminutive of endearment. The wee bairn, the tiny flower, are pleasing by their littleness; and smallness produced by perspective, whether linear or aerial, has a like effect. When we say of a railway train crossing a viaduct down in the valley, "How pretty it looks," the charm is in its toylike proportions; and the homestead that nestles on the far hill side, softened in colour and profile, no bigger than one's finger-tip, awakens a tender emotion.

But in a painted landscape all things are necessarily minute, and possess, in consequence, the endearment of diminutiveness. A miniature, too, has a softer effect than a full-sized portrait, and an expression of sternness is often produced by one that is larger than life.

Moreover, it should not be forgotten that, as similarity implies contrast, as contraries are associated with each other, a representation of stormy or angry scenes may please not only by its accuracy but by suggesting its opposite, as in the sentiment of Lucretius that Bacon paraphrases: "It is a pleasure to stand upon the shore and to see ships tost upon the sea":

"Suave, mari magno, turbantibus æquora ventis,
E terrâ magnum alterius spectare laborem;
Non quia vexari quemquam est jucunda voluptas,
Sed, quibus ipse malis careas, quia cernere suave est."

The sight of danger to which he is not himself exposed exalts the spectator's enjoyment of security.

And, if so small a matter may now be mentioned, Fine Art does not disdain the aid of Artistic treatment in the framing, hanging, and balance of pictorial works, or in the site, backing, and canopy of sculpture; whilst Artistic treatment often decides whether the most prominent detail of a composition shall be placed on the observer's right hand or on his left.

If we admit that Fine Art exists solely for the purpose of furthering emotion, we may safely conclude that emotional craving originated it. And we shall be ready to believe those who tell us that the landscape-painting of Europe came from a development of backgrounds to the saintly figures of altarpieces, whereas that which we find on the banks of the Nile sprang from a desire to cover the walls of tombs with scenes dear to the departed soul; whilst portrait-painting, too, had its origin in connection with the religious creeds of Egypt.

And if we accept, in any measure, the psychology of Art now advanced, we may find, perhaps unexpectedly, that "feeling" lies very close to sensation, that emotion is after all very relational, that central and epiperipheral feelings are associable and do not indeed greatly differ in revivability.

In conclusion, the five elements of Art may be analysed upon an urn. Artifice has moulded a hollow vessel of earth and has baked it so that it will hold water. As the gourd was in many cases its model, expectancy has required its base to be much narrower than strict utility might have provided; but the ring that was once a stand for it has now become its foot. Artistic treatment has given it outlines that we, or others, call graceful; has coloured its clay, and washed its surface with a translucent glaze; and has carried aloft in symmetrical curves those handles that were once of ozier or of cords.

Round the foot and shoulder and neck, expectancy has drawn bands of Ornament, skeuomorphs of binding, of basketry, or of textiles; and a phyllomorph is parasitic upon them. Embellishment has hung a foolish chain in a festoon between the handles. And Fine Art has filled the middle zone with a bas relief, or a painting, that moves the soul.

"What leaf-fringed legend haunts about thy shape
Of deities or mortals, or of both,
In Tempe or the dales of Arcady?"

Thus, revealed upon a vase, we witness not alone the elements of Art, but its history, its psychology, and its evolution.

II.—THE CONTRARY AND THE DISPARATE.

BY F. H. BRADLEY.

IN the following pages I am to raise some questions about the true character of the contrary or contradictory, first generally and next in relation to the disparate. The discussion, I fear, must be uninteresting in itself, but in some of its bearings may possess considerable importance.

If we are asked "What is contrary or contradictory?" (I do not find it necessary here to distinguish between these), the more we consider the more difficult we find it to answer. "A thing cannot be or do two opposites at once and in the same respect"—this reply at first sight may seem clear, but on reflection may threaten us with an unmeaning circle. For what are "opposites" except the adjectives which the thing cannot so combine? Hence we have said no more than that we in fact find predicates which in fact will not go together, and our further introduction of their "opposite" nature seems to add nothing. "Opposites will not unite, and their apparent union is mere appearance." But the mere appearance really perhaps only lies in their intrinsic opposition. And if one arrangement has made them opposite, a wider arrangement may perhaps unmake their opposition, and may include them all at once and harmoniously. Are, in short, opposites really opposite at all, or are they, after all, merely different? Let us attempt to take them in this latter character.

✓ "A thing cannot without an internal distinction be (or do¹) two different things, and differences cannot belong to the same thing in the same point unless in that point there is diversity. The appearance of such a union may be fact, but is for thought a contradiction." This is the thesis which to me seems to contain the truth about the contrary, and I will now try to recommend this thesis to the reader.

The thesis in the first place does not imply that the end

¹ This addition is superfluous.

which we seek is tautology. Thought most certainly does not demand mere sameness which to it would be nothing. A bare tautology (Hegel has taught us this, and I wish we could all learn it), is not even so much as a poor truth or a thin truth. It is not a truth in any way, in any sense, or at all. Thought involves analysis and synthesis, and if the Law of Contradiction forbade diversity, it would forbid thinking altogether. And with this too necessary warning I will turn to the other side of the difficulty. Thought cannot do without differences, but on the other hand it cannot make them. And, as it cannot make them, so it cannot receive them merely from the outside and ready-made. Thought demands to go *proprio motu*, or, what is the same thing, with a ground and reason. Now to pass from *A* to *B*, if the ground remains external, is for thought to pass with no ground at all. But if, again, the external fact of *A*'s and *B*'s conjunction is offered as a reason, then that conjunction itself creates the same difficulty. For thought's analysis can respect nothing, nor is there any principle by which at a certain point it should arrest itself or be arrested. Every distinguishable aspect becomes therefore for thought a diverse element to be brought to unity. Hence thought can no more pass without a reason from *A* or from *B* to its conjunction, than before it could pass groundlessly from *A* to *B*. The transition, being offered as a mere datum, or effected as a mere fact, is not thought's own self-movement. Or in other words, because for thought no ground can be merely external, the passage is groundless. Thus *A* and *B* and their conjunction are, like atoms, pushed in from the outside by chance or fate; and what is thought to do with them but either make or accept an arrangement which to it is wanton and without reason,—or, having no reason for anything else, attempt against reason to identify them simply?

"But not at all," I shall be told, "for the whole case is otherwise. There are certain ultimate complexes given to us as facts, and these ultimates, as they are given, thought simply takes up as principles and employs them to explain the detail of the world. And with this process thought is satisfied." To me such a doctrine is quite erroneous. For these ultimates (*a*) cannot make the world intelligible, and again (*b*) they are not given, and (*c*) in themselves they are self-contradictory, and not truth but appearance.

Certainly for practice we have to work with appearance and with relative untruths, and without these things the sciences of course would not exist. There is, I suppose, here no question about all this, and all this is irrelevant. The question here is whether with so much as this the intellect

can be satisfied, or whether on the other hand it does not find in the end defect and self-contradiction. Consider first (a) the failure of what is called "explanation." The principles taken up are not merely in themselves not rational, but, being limited, they remain external to the facts to be explained. The diversities therefore will only *fall*, or rather must be *brought*, under the principle. They do not come out of it, nor of themselves do they bring themselves under it. The explanation therefore in the end does but conjoin aliens inexplicably. The obvious instance is the mechanical interpretation of the world. Even if here the principles were rational intrinsically, as surely they are not, they express but one portion of a complex whole. The rest therefore, even when and where it has been "brought under" the principles, is but conjoined with them externally and for no known reason. Hence in the explanation there is in the end neither self-evidence nor any "because" except that brutally things come so.

"But in any case," I may hear, "these complexes are given and do not contradict themselves," and let us take these points in their order. (b) The transition from *A* to *B*, the inherence of *b* and *c* as adjectives in *A*, the union of discretion and continuity in time and space—"such things are facts," it is said. "They are given to an intellect which is satisfied to accept and to employ them." They may be facts, I reply, in some sense of that word, but to say that, as such and in and by themselves, they are given is erroneous. What is given is a presented whole, a sensuous total in which these characters are found; and beyond and beside these characters there is always given something else. And to urge "but at any rate these characters are there," is surely futile. For certainly they are not, when there, as they are when you by an abstraction have taken them out. Your contention is that certain ultimate conjunctions of elements are given. And I reply that no such *bare* conjunction is or possibly can be given. For the background is present, and the background and the conjunction are, I submit, alike integral aspects of the fact. The background therefore must be taken as a condition of the conjunction's existence, and the intellect must assert the conjunction subject in this way to a condition. The conjunction is hence not bare but dependent, and it is really a connection mediated by something falling outside it. A thing, for example, with its adjectives can never be simply given. It is given integrally with a mass of other features, and when it is affirmed of Reality it is affirmed of Reality qualified by this presented background. And this Reality (to go further) is and must be qualified also by what transcends

any one presentation. Hence the mere complex, alleged to be given to the intellect, is really a selection made by or accepted by that intellect. An abstraction cuts away a mass of environmenting particulars, and offers the residue bare, as something given and to be accepted free from supporting conditions. And for working purposes such an artifice is natural and necessary, but to offer it as ultimate fact seems to me to be monstrous. We have an intellectual product, to be logically justified, if indeed that could be possible, and most certainly we have not a genuine datum.

At this point we may lay down an important result. The intellect cannot be reduced to choose between accepting an irrational conjunction or rejecting something given. For the intellect can always accept the conjunction not as bare but as a connection, the bond of which is at present unknown. It is taken therefore as by itself appearance which is less or more false in proportion as the unknown conditions, if filled in, less or more would swamp and transform it. The intellect therefore while rejecting whatever is alien to itself, if offered as absolute, can accept the inconsistent if taken as subject to conditions. Beside absolute truth there is relative truth, useful opinion, and validity, and to this latter world belong so-called non-rational facts¹.

¹ I use "validity" much in the sense in which it was made current, I believe, by Lotze, and in which it has been said, I presume, with some truth, partly to coincide with *δόξα*. For my own purposes I have tried elsewhere to fix the meaning of the term, and I think it would have been better if Mr Hobhouse, in his interesting and most instructive volume on *The Theory of Knowledge*, had remembered, when concerned with myself, that what is self-contradictory may also for me be valid. I should find it in general very difficult to reply to Mr Hobhouse's criticisms on my views, because in so many places I have to doubt if I can have apprehended his meaning. I understand him, e.g., to urge that a judgment must be categorically true, if its content can be shown to be "contained" in reality. But the question was, I supposed, not in the very least as to whether the content is contained in reality or not, but entirely as to *how*, being contained there, it is contained, i.e. whether categorically or otherwise. Again Mr Hobhouse seems to assume that, if a complex (such as the inherence of diverse adjectives or the union of continuity and discretion) is "fact," it therefore cannot be self-contradictory for thought. But surely the view he is engaged in controverting, holds precisely that to be false here which he, so far as I have seen, without any discussion assumes to be true. So that it is better that I should admit that I must have failed to follow the argument. This, I am sorry to add, is the case in most of the places where my views are criticized. The criticisms, e.g. on p. 495 and again in the footnote to p. 74, remain to me I regret to say, as I understand them, without application. I am quite disposed to admit that the fault may lie at least partly with myself, but the result is unfortunately as I have described it. If Mr Hobhouse has understood the main drift of the view he criticizes I have not been able for the most part to understand his criticism, and I do not doubt that I am the loser.

(c) And any mere conjunction, I go on to urge, is for thought self-contradictory. Thought, I may perhaps assume, implies analysis and synthesis and distinction in unity. Further the mere conjunction offered to thought cannot be set apart itself as something sacred, but may itself properly and indeed must become thought's object. There will be a passage therefore from one element in this conjunction to its other element or elements. And on the other hand, by its own nature, thought must hold these in unity. But, in a bare conjunction, starting with *A* thought will externally be driven to *B*, and seeking to unite these it will find no ground of union. Thought can of itself supply no internal bond by which to hold them together, nor has it any internal diversity by which to maintain them apart. It must therefore seek barely to identify them, though they are different, or somehow to unite both diversities where it has no ground of distinction and union. And this does not mean that the connection is merely unknown and may be affirmed as unknown, and also, supposing it were known, as rational. For, if so, the conjunction would at once not be bare, and it is as bare that it is offered and not as conditional. But, if on the other hand it remains bare, then thought to affirm it must unite diversities without any internal distinction, and the attempt to do this is precisely what contradiction means.

"But," I shall be told, "you misrepresent the case. What is offered is not the elements apart, nor the elements plus an external bond, but the elements together and in conjunction." Yes, I reply, but the question is how thought can think what is offered. If thought in its own nature possessed a "together," a "between," and an "all at once," then in its own intrinsic passage, or at least somehow in its own way and manner, it could re-affirm the external conjunction. But if these sensible bonds of union fall outside the inner nature of thought, just as much as do the sensible terms which they outwardly conjoin—the case surely is different. Then forced to distinguish and unable to conjoin by its own proper nature, or with a reason, thought is confronted by elements that strive to come together without a way of union. The sensible conjunctions remain for thought mere other elements in the congeries, themselves failing in connection and external to the others. And, on the other hand, driven to unite without internal distinction thought finds in this attempt a self-contradiction. You may exclaim against thought's failure, and in this to some degree I am with you; but the fact remains thus. Thought cannot accept tautology and yet demands unity in diversity. But your offered conjunctions on the other

side are for it no connections or ways of union. They are themselves merely other external things to be connected. And so thought, knowing what it wants, refuses to accept something different, something which for it is appearance, a self-inconsistent attempt at reality and truth. It is idle from the outside to say to thought, "Well, unite but do not identify." How can thought unite except so far as in itself it has a mode of union? To unite without an internal ground of connection and distinction is to strive to bring together barely in the same point, and that is self-contradiction.

Things are not contrary because they are opposite, for things by themselves are not opposite. And things are not contrary because they are diverse, for the world as a fact holds diversity in unity. Things are self-contrary when, and just so far as, they appear as bare conjunctions, when in order to think them you would have to predicate differences without an internal ground of connection and distinction, when, in other words, you would have to unite diversities simply, and that means in the same point. This is what contradiction means, or I at least have been able to find no other meaning. For a mere "together," a bare conjunction in space or time, is for thought unsatisfactory and in the end impossible. It depends for its existence on our neglecting to reflect, or on our purposely abstaining, so far as it is concerned, from analysis and thought. But any such working arrangement, however valid, is but provisional. On the other hand, we have found that no intrinsic opposites exist, but that contraries, in a sense, are made. Hence in the end nothing is contrary nor is there any insoluble contradiction. Contradictions exist so far only as internal distinction seems impossible, only so far as diversities are attached to one unyielding point assumed, tacitly or expressly, to be incapable of internal diversity or external complement. But any such fixture is an abstraction, useful perhaps, but in the end appearance. And thus, where we find contradiction, there is something limited and untrue which invites us to transcend it.

Standing contradictions appear where the subject is narrowed artificially, and where diversity in the identity is taken as excluded. A thing cannot be at once in two places if in the "at once" there is no lapse, nor can one place have two bodies at once if both claim it in their character as extended. The soul cannot affirm and deny at a single time, unless (as some hold) the self itself may be divided. And, to speak in general, the more narrowly we take the subject, and the less internal ground for diversity it contains, the more it threatens us with standing or insoluble contradictions. But, we may

add, so much the more abstractedness and less truth does such a subject possess. We may instance the presence of "disparate" qualities, such as white, hard and hot, in a single thing. The "thing" is presented as one feature of an indefinite complex, and it is affirmed as predicate of a reality transcending what is given. It is hence capable in all ways of indefinite addition to its apparent character. And to deny that in the "real thing" can be an internal diversity and ground of distinction seems quite irrational. But so far as for convenience or from thoughtlessness the denial is made, and the real thing is identified with our mutilated and abstract view of the thing—so far the disparate qualities logically clash and become contradictory¹.

The Law of Contradiction tells us that we must not simply identify the diverse, since their union involves a ground of distinction. So far as this ground is rightly or wrongly excluded, the Law forbids us to predicate diversities. Where the ground is merely not explicit or remains unknown, our assertion of any complex is provisional and contingent. It may be valid and good, but it is an incomplete appearance of the real, and its truth is relative. Yet, while it offers itself as but contingent truth and as more or less incomplete appearance, the Law of Contradiction has nothing against it. But abstracted and irrational conjunctions taken by themselves as reality and truth, in short "facts" as they are accepted by too many philosophers, the Law must condemn. And about the truth of this Law, so far as it applies, there is in my opinion no question. The question will be rather as to how far the Law applies and how far therefore it is true.

We have awaiting us a further enquiry into the "disparate" as distinct from the contrary, but, before we proceed, there is a matter we may do well to consider. In this attempt to attribute diversity and to avoid contradiction what in the end would satisfy the intellect supposing that it could be got? This question, I venture to think, is too often ignored. Too often a writer will criticize and condemn some view as being that which the mind cannot accept, when he has never asked himself what it is that would satisfy the intellect, or even whether the intellect could endure his own implied alternative. What in the end then, let us ask, would content the intellect?

While the diversities are external to each other and to their union, ultimate satisfaction is impossible. There must, as we have seen, be an identity and in that identity a ground

¹ Of course the real thing or the reality of the thing may turn out to be something very different from the thing as we first take it up.

of distinction and connection. But that ground, if external to the elements into which the conjunction must be analyzed, becomes for the intellect a fresh element, and it itself calls for synthesis in a fresh point of unity. But hereon, because in the intellect no intrinsic connections were found, ensues the infinite process. Is there a remedy for this evil?

The remedy might lie here. If the diversities were complementary aspects of a process of connection and distinction, the process not being external to the elements or again a foreign compulsion of the intellect, but itself the intellect's own *proprius motus*, the case would be altered. Each aspect would of itself be a transition to the other aspect, a transition intrinsic and natural at once to itself and to the intellect. And the Whole would be a self-evident analysis and synthesis of the intellect itself by itself. Synthesis here has ceased to be mere synthesis and has become self-completion, and analysis, no longer mere analysis, is self-explication. And the question how or why the many are one and the one is many here loses its meaning. There is no why or how beside the self-evident process, and towards its own differences this whole is at once their how and their why, their being, substance and system, their reason, ground, and principle of diversity and unity.

Has the Law of Contradiction anything here to condemn? It seems to me it has nothing. The identity of which diversities are predicated is in no case simple. There is no point which is not itself internally the transition to its complement, and there is no unity which fails in internal diversity and ground of distinction. In short "the identity of opposites," far from conflicting with the Law of Contradiction, may claim to be the one view which satisfies its demands, the only theory which everywhere refuses to accept a standing contradiction. And if all that we find were in the end such a self-evident and self-complete whole, containing in itself as constituent processes the detail of the Universe, so far as I see the intellect would receive satisfaction in full. But for myself, unable to verify a solution of this kind, connections in the end must remain in part mere syntheses, the putting together of differences external to one another and to that which couples them. And against my intellectual world the Law of Contradiction has therefore claims nowhere satisfied in full. And since, on the other hand, the intellect insists that these demands must be and are met, I am led to hold that they are met in and by a whole beyond the mere intellect. And in the intellect itself I seem to find an inner want and defect and a demand thus to pass itself beyond itself. And against this conclusion I have not yet seen any tenable objection.

If in the presence of some misunderstandings I may dwell on the view which to me appears to be true, it is briefly this. That abstract identity should satisfy the intellect, even in part, is wholly impossible. On the other hand I cannot say that to me any principle or principles of diversity in unity are self-evident. The existence of a single content (I will not call it a quality) which should be simple experience and being in one is to me not in itself impossible intrinsically. If I may speak mythologically I am not sure that, if no diversity were given, the intellect of itself could invent it or would even demand it. But, since diversity is there as a fact, any such hypothesis seems illegitimate. As a fact and given we have in feeling diversity and unity in one whole, a whole implicit and not yet broken up into terms and relations. This immediate union of the one and many is an "ultimate fact" from which we start; and to hold that feeling, because immediate, must be simple and without diversity is, in my view, a doctrine quite untenable¹. That I myself should have been taken as committed to this doctrine is to me, I must be allowed to add, really surprising. But feeling, if an ultimate fact, is not true ultimately or real. Even of itself it is self-transcendent and transitory. And, when we try to think its unity, then, as we have seen, we end in failure. For thought in its own nature has no "together" and is forced to move by way of terms and relations, and the unity of these remains in the end external and, because external, inconsistent. But the conclusion I would recommend is no vain attempt either to accept bare identity or to relapse back into a stage before thinking begins. Self-existence and self-identity are to be found, I would urge, in a whole beyond thought, a whole to which thought points and in which it is included, but which is known only in abstract character and could not be verified in its detail.

And since I find that in some quarters I have been taken to build on assumptions I am unable to recognize, the reader perhaps will bear with me if I try to set down what it is that I have assumed. I have assumed first that truth has to satisfy the intellect, and that what does not do this is neither true

¹ Feeling is certainly *not* "un-differentiated" if that means that it contains no diverse aspects. I would take the opportunity to state that this view as to feeling is so far from being novel that I owe it, certainly in the main, to Hegel's psychology. In the same way what I have urged as to the Association of Ideas is in principle mainly taken from the same source. It would be interesting to learn from some student of the history of philosophy to what extent and through what channels ideas from German Idealism have filtered unacknowledged into empirical psychology.

nor real. This assumption I can defend only by showing that any would-be objector assumes it also. And I start from the root-idea of being or experience, which is at once positive and ultimate. Then I certainly do not go on to assume about being that it must be self-contained, simple or what not?—but I proceed in another manner. I take up certain facts or truths (call them what you please) that I find are offered me, and I care very little what it is I take up. These facts or truths, as they are offered, I find my intellect rejects, and I go on to discover why it rejects them. It is because they contradict themselves. They offer, that is, a complex of diversities conjoined in a way which does not satisfy my intellect, a way which it feels is not its way and which it cannot repeat as its own, a way which for it results in mere collision. For, to be satisfied, my intellect must understand, and it cannot understand by taking a congeries, if I may say so, in the lump. My intellect may for certain purposes, to use an old figure, swallow mysteries unchewed, but unchewed it is unable in the end to stomach and digest them. It has not, as some opponents of Hegel would seem to assume, any such strange faculty of sensuous intuition. On the contrary my intellect is discursive, and to understand it must go from one point to another, and in the end also must go by a movement which it feels satisfies its nature. Thus, to understand a complex AB , I must begin with A or B . And beginning, say, with A , if I then merely find B , I have either lost A or I have got beside A something else, and in neither case have I understood. For my intellect cannot simply unite a diversity, nor has it in itself any form or way of togetherness, and you gain nothing if beside A and B you offer me their conjunction in fact. For to my intellect that is no more than another external element. And “facts,” once for all, are for my intellect not true unless they satisfy it. And, so far as they are not true, then, as they offered, they are not reality.

From this I conclude that what is real must be self-contained and self-subsistent and not qualified from the outside. For an external qualification is a mere conjunction, and that, we have seen, is for the intellect an attempt of diversities simply to identify themselves, and such an attempt is what we mean by self-contradiction. Hence whatever is real must be qualified from itself, and that means that, so far as it is real, it must be self-contained and self-subsistent. And, since diversities exist, they must therefore somehow be true and real; and since, to be understood and to be true and real, they must be united, hence they must be true and real in such a way

that from *A* or *B* the intellect can pass to its further qualification without an external determination of either. But this means that *A* and *B* are united, each from its own nature, in a whole which is the nature of both alike. And hence it follows that in the end there is nothing real but a whole of this kind¹.

From the other side—Why do I hold reality to be a self-contained and self-consistent individual? It is because otherwise, if I admit an external determination and a qualification by an other, I am left with a conjunction, and that for the intellect is a self-contradiction. On the other hand the real cannot be simple, because to be understood, it must somehow be taken with and be qualified by the diversity which is a fact. The diversity therefore must fall within and be subordinate to a self-determined whole, an individual system, and any other determination is incompatible with reality. These ideas may be mistaken, but to my mind they do not seem to be obscure, nor again are they novel. But, if I may judge from the way in which some critics have taken them, they must involve some great obscurity or difficulty. But, not apprehending this, I am unfortunately unable to discuss it².

We have found so far that nothing in itself is opposite and refuses to unite. Everything again is opposite if brought together into a point which owns no internal diversity. Every bare conjunction is therefore contradictory when taken up by thought, because thought in its nature is incapable of conjunction and has no way of mere "together." On the other side no such conjunction is or possibly could be given. It is itself a mere abstraction, useful perhaps and so legitimate and

¹ And hence it follows also that every "part" of this whole must be internally defective and (when thought) self-contradictory. For otherwise how from one to others and the rest could there be any internal passage? And without such a passage and with but an external junction or bond, could there be any system or whole at all which would satisfy the intellect, and could be taken as real or possible? I at least have given my reason for answering this question in the negative. We may even, forgetting other points of view, say of the world,

"Thus every part is full of vice
And yet the whole a paradise."

² The Law of Identity, I may be allowed to note in this connection, is the denial that truth, if true, is alterable from the outside. For, if so, it would become either itself conjoined with its own absence, or itself conjoined with a positive other; and either alternative (to take them here as alternatives), we have seen, is self-contradictory. Hence any mere context cannot modify a truth so far as it is true. It merely adds, we must say, something more which leaves the truth unaffected. Truth cannot be modified, in other words, except from within. This of course opens a problem, for truth seems on the one hand to be abstract, as truth, and so incomplete, and on the other hand, if true, to be self-contained and even self-existent.

so far valid, but taken otherwise to be condemned as the main root of error.

Contradiction is appearance, everywhere removable by distinction, and by further supplement, and removed actually, if not in and by the mere intellect, by the whole which transcends it. On the other hand contradiction, or rather what becomes such, as soon as it is thought out, is everywhere necessary. Facts and views partial and one-sided, incomplete and so incoherent—things that offer themselves as characters of a Reality which they cannot express, and which present in them moves them to jar with and to pass beyond themselves—in a word *appearances* are the stuff of which the Universe is made. If we take them in their proper character we shall be prone neither to over-estimate nor to slight them.

We may pass now possibly with some relief to the second part of our discussion, the distinction to be drawn between the contrary and the disparate. It is a psychical fact that some qualities are what is called compatible and others not so. This fact has in psychology considerable importance, and in turning to deal with it I have to begin by lamenting the defective character of my psychological studies, and my too probable ignorance of valuable contributions to the enquiry. But I do not see that any explanation of this fact could invalidate the principles we have laid down. If, as may well be, the fact of incompatibility should prove in detail inexplicable, that will tend but to show our ignorance of particulars. And, so far as within my knowledge the fact can be explained, it may serve I think to illustrate and confirm our general account of the contrary.

Psychology, I should add, is for me one of the empirical sciences. It has to accept and work with principles which it could not defend as more than useful fictions. Its task is to systematize its facts by bringing them under ideas which are to be judged solely by their efficacy. Psychology to me is rational even while working only thus and though unable to pass beyond these limits. And whatever view in the end metaphysics may adopt about the nature of the soul, I cannot see how in any case it could show that anywhere psychology has gone wrong—unless it has gone wrong also when judged by its own proper principles. But, if so, empirical psychology need trouble itself nothing about objections urged by metaphysicians from the outside. It may safely leave these to be controverted by rival metaphysicians¹.

¹ I would here express my regret that Professor Wallace, in his Introduction to *Hegel's Philosophy of Mind*, has not fully explained himself

I will at once briefly state the conclusion I have reached so far as I have reached any. There is for psychology nothing in itself incompatible or opposite or contrary. Diversities become contrary where to exist they must occupy the same point. Wherever there is no arrangement by which the soul can keep differences apart, these differences are contrary. It is the attempt of two players to perform at the same time on one instrument, an instrument the keyboard of which of course is limited¹. So far as our instrument is physical the reason is clear. You cannot have two different motions in the same body, because you assume that one body cannot be at the same time in two places. The motions in the end may remain unknown, but the principle, so far as it goes, seems evident. And this principle may be carried into the psychical sphere. All differences in the soul must fall under an identity, and where in this identity a diversity is absent and remains so, the differences, so far, are and must remain contrary. The psychical machinery for distinction may, like the physical, remain unknown, but the principle, so far as it goes, once more seems sound. I will endeavour now, so far as I can, to justify this conclusion, and to point out how some other views arrange themselves under it.

The facts to be dealt with are in the main familiar. There are some diverse qualities, such as colour and heat, which seem compatible. But there are others—like black and white, or cold and hot, or denial and assertion, or in the body bending and straightening of a limb—which will not go together. These qualities are “incompatible,” and starting from such general facts I will make some distinctions which I hope may serve to assist us.

(i) Incompatibility may be secondary and merely acquired. If *A* and *B* are contrary, and if *C* is in some way, by habit, association, or otherwise, connected with either of *A* or *B*, then (if *C* is indivisible), *C* becomes incompatible with the other. Or again, if *A* and *B* have become connected, then a separate *A* or *B* becomes a *C* incompatible with their union. And in either case *C* may become contrary *de facto* merely,

on a somewhat important point. I understand him to hold that, beside what he takes to be the one true and rational psychology (Hegel's), no mere working and in the end untrue psychology has a right to exist. For myself I fail to see the incompatibility which Professor Wallace assumes, and I could wish that he had attempted, on the one hand, to justify this view, so far as it is his own, and had, on the other hand, given the reasons which I do not doubt he has, for treating this view as necessarily Hegel's. Hegel must bear his own burdens and this may be one of them, but I think it is our duty to ask for the evidence.

¹ Cf. Stricker, *Sprachvorstellungen*, p. 90.

or it may become further qualified by the idea of the negation of *A* or *B*. This secondary incompatibility and this qualification by an idea of negation are matters which in their place possess very great importance. But it seems possible to ignore them here, and I intend to pass them by.

(ii) We have next the incompatibility which is found always, and the incompatibility which exists only sometimes. The latter is exemplified by the limits of our attention. If I am engaged on one thing, then beyond a certain limit anything else is incompatible. And quite apart from active attention we may verify the same result. There is a point—a variable point changing in the highest degree under changing conditions—at which anything beyond is for the soul something too much and so tending to become contrary. These are two examples of one sort of temporary opposition.

(iii) And there is another kind—if it really is another kind—of temporary contrariness, where I am at present unable to make a certain distinction. The want of power separately to move the fingers or close the eyes seems an example of this, while inability to rotate the thumbs in different directions would probably fall under No. (i). And in the mental world we have failure to make distinctions in an intellectual or moral whole, inability, for instance, to regard a case of conduct from a point of view which is not that natural to oneself.

(iv) After these perhaps too rough distinctions we come to the incompatibility which is residual. This we may call primary, that is, not acquired or removeable contrariness.

It is impossible for me to show that the facts of this fall under the principle which I have laid down, since an attempt at explanation would soon become a mere appeal to the unknown. But I will point out that nothing in the facts even tends to conflict with our principle, and that other accounts, so far as tenable, seem to be included within it. The principle is that two tunes cannot be played on one instrument, unless so far as in that instrument an arrangement for distinguishing them exists or can be developed. The same in short cannot be diverse without an internal condition of its diversity. Now what we have called “secondary” incompatibility need not be considered. The questions it raises seem to fall outside our present discussion, and I will therefore take first the incompatibility from limitation. If the physical and psychical area is occupied and not further increasable, anything fresh must be excluded unless somehow there is joint occupation. And in fact of course the psychical area is limited, though probably no reason that is not physical can be assigned for this. But joint occupation is possible only where

the fresh element can unite with what exists either by fusion or else by subordination, under or with it, into a group or system. But the latter arrangement implies some means of distinction. If, while attending, I can bring anything new under my leading idea, or can modify or transform my idea so as to include it, in that case I can attend to it, and otherwise it remains incompatible. And the same account holds of my ability to separate actions usually conjoined. If I can hold the distinction between them clearly, a division may be possible, and otherwise not. Lastly primary incompatibility itself will fall under the same main principle. If the same surface refuses to be black and white, it is because there is no arrangement for uniting these diversities apart. Hence they strive to occupy the same point, which is not possible. And when the same is warm and white, or cold and black, it is because in the organ there is an arrangement for conjoining this diversity. The detail largely seems to be unknown, but the abstract principle seems clear. Compatibility depends on the provision of internal diversity, and it is an affair of machinery, physical and psychical. On the general nature of the machinery I will say something lower down, and will now pass on to consider briefly some other ways of explanation.

(1) The general identity or unity of the soul as a working principle will not take us far. Certainly a claim to the same point is a reason for collision, but then we actually and as a fact do have diversities present in the soul. The unity therefore makes contraries only in a certain case, where, that is, there is in the soul no ground of diversity. But this is clearly the principle which we have adopted above. And some such ground of diversity, I would add, we must assume to exist even in the merest complex feeling. (2) But identity, taken as a special identity, must be further considered. It is (a) evidently a ground of collision when it works through Association, that is, by Redintegration of the discrepant. But this process will fall under the head of secondary incompatibility¹. (b) Identity producing contraries by partial fusion is a process more difficult to deal with. Two elements are here taken to blend in their common part, and therefore to collide with the rest. And we must, I think, admit that such blending would produce a collision, and that in the end this process could not wholly be brought under the head of Redintegration. But whether such fusion is more than hypo-

¹ This is how Association is able to analyze and dissociate. I would venture to refer here to my *Principles of Logic*, p. 445.

thetical admits of doubt. This is, however, a point which it is not necessary for me here to discuss. For in any case the fusion would lead to collision only so far as the common point is simple, and, if in that point a distinction exists or could be made, the collision would disappear. And thus the process, so far as it is real, will clearly fall under our main principle. (3) The description of contraries as the furthest apart in their genus is not, I presume, to be taken as an explanation of the contrary. Whether it is or is not true in fact that contraries must belong to one genus, will depend on the sense in which genus is taken. But, so far as the genus explains collision, it will be equivalent to identity, and we have discussed it already. (4) I will come next¹ to the account of contraries offered by Lotze, *Logik*, p. 98. I find this somewhat obscure, and I am in considerable doubt as to its meaning. Contraries, he says, are incompatible because their conditions cannot co-exist. And their conditions cannot co-exist because they must combine to form a resultant in which they are lost. Now it might be objected that the problem here is but shifted from the contrary to its conditions, and so is not solved; but Lotze's meaning I rather take to be this. If you are to have diversities in one, and if they are neither to start wholly asunder or to blend, you must have some machinery for keeping them both together and yet apart, and, where that fails, you have the contrary and not the disparate. Diversities are contrary where their production involves the same machine, and where in the machine there is no provision for the separation of the actions which produce them. And, if this is Lotze's meaning, we may claim his valued support for the main doctrine of this article. At all events we have found nothing which seems to conflict with that doctrine.

Diversities are contrary psychically when they seek to occupy one point which internally is not diverse. But how in the end are we to understand and to formulate this? What is the point and the machinery of which we have spoken? I can only attempt to answer this question in the abstract and generally.

¹ I do not understand Prof. Binet (*Rev. Phil.* 170, p. 150) to be dealing at all with the general question of psychical incompatibility; and, so far as he touches on it, I am not sure that I am able to follow him. But the fact that incompatibles may cease to be such when one becomes automatic, will fall easily under the principle we have been defending. Either a division in the self allows of diversity and a distinction in what before was a single point of union, or else by the lowering of one function a less demand is made on the available energy. But the question of the Unity of Thought is a special problem to which I hope at some time to return.

(i) From the physical side, if the available energy is limited, that at once limits the actions of the machine, and so produces incompatibility. But the main principle may be put thus. Certain actions, if performed, must be performed by certain parts of the machine. We need not for our present purpose seek to ask why this is so, but must take it as a fact. But two movements of the same part, if that part is simple, cannot possibly co-exist. And two movements of diverse parts cannot co-exist so far as those movements collide. Hence anything which directly or indirectly would involve such co-existence is incompatible with itself. The ultimate principle here is obviously the relation of body to space. If spaces are exclusive, then one body cannot have two spaces or one space two bodies, unless a distinction in time or some other distinction is introduced. Such is, I presume, the general nature of physical incompatibility. But how in detail it is to be understood is a question beyond my knowledge. If the physical motions could be reduced to movements of muscles, the problem would be much simplified. But apparently in the end no such simplification is possible.

(ii) The physical cause of incompatibility is in its detail unknown, and how far in its detail it ever will be known is, I presume, uncertain. And we are led to ask if on the psychical side incompatibility in the end can be understood. We saw that secondary or acquired contrariety was to be explained by Association, but, when we came to what is primary, the case was different. To account for this psychically in detail is, I believe, quite impossible, and to find the special reason why certain qualities do and others do not collide appears to me hopeless. But on the other hand to have a way of bringing these particular facts under a general point of view may be desirable. And for working purposes and by a useful fiction we may regard the matter thus. The soul we may take to be an area or space varying in extent and amount, and the parts or positions in this area may have psychical "local signs." They may be viewed as possessing qualitative differences under a qualitative sameness, a diversity in identity not distinguished by relations but forming a felt totality. Now this area will be increasable by the addition of more parts qualitatively diverse under the same general quality. And further each part itself may be internally increasable by fresh qualitative diversity under and subject to the sameness of its own special quality. Now starting from this basis we may in a sense understand the general fact of psychical contrariety. All sensible qualities are compatible so long as each keeps to a diverse "local sign." But any

sensible qualities will be incompatible if they attempt to occupy the same undivided point. *A* must repel *B* if, to be experienced, both must be present in a simple *x*. But on the other hand if *x* itself has, or again if it can in any way develop, an internal diversity, then wherever this is so *A* and *B* are compatible. In this way we can represent to ourselves the general facts both of collision and again of growth in internal particularity. And I venture to think that such a way of regarding the facts is useful. In the end it is indefensible of course, it is in itself self-contradictory and unintelligible, because between the identity and the diversity there is no inner connection. They are merely conjoined, and a mere conjunction, we have seen, contradicts itself. But the principles of physical science, so far as I am able to perceive, are in precisely the same case. These sciences end, if I may say so, in working fictions and in useful nonsense, and I see no reason why we should allow them a monopoly of that. Psychology on its side too is compelled certainly to employ some fictions, and if this fiction of discrete points in the continuous soul—points which may or may not themselves develop an internal discretion—is convenient, there is no more to be said. For physical or spatial continuity and discretion is itself in the end irrational and inconsistent. Only let us be clear that we have but a general way of regarding contrariety where it happens, and that a particular explanation is out of our power.

We have seen both in the soul and generally the nature of incompatibles or contraries. There are no native contraries, and we have found no reason to entertain such an idea. Things are contrary when, being diverse, they strive to be united in one point which in itself does not admit of internal diversity. And for the intellect any bare conjunction is an attempt of this sort. The intellect has in its nature no principle of mere togetherness, and the intellect again can accept nothing which is alien to itself. A foreign togetherness of elements is for the intellect, therefore, but one offered external element the more. And, since the intellect demands a unity, every distinguishable aspect of a "together" must be brought into one. And if in this unity no internal connection of diversity natural to the intellect can be found, we are left with a diversity belonging to and conjoined in one undistinguished point. And this is contradiction, and contradiction in the end we found was this and nothing but this. On the other hand we urged that bare irrational conjunctions are not given as facts. Every perceived complex is a selection from an

indefinite background, and, when judged as real, it is predicated both of this background and of the Reality which transcends it. Hence in this background and beyond it lies, we may believe, the reason and the internal connection of all we take as a mere external "together." Conjunction and contradiction in short is but our defect, our one-sidedness, and our abstraction, and it is appearance and not Reality. But the reason we have to assume may in detail be not accessible to our intellect. And turning to psychology we found that contrariety was original and acquired, and that of the particulars of original incompatibility no explanation could be given. Such an explanation from the side of mind seems impossible, and from the side of body not yet attainable. But, on the other hand, we found that from the side of mind a certain hypothesis was convenient and therefore justified¹.

¹ I find that I have forgotten to notice in its proper place a question which might possibly give rise to difficulty. How are we able at all to think of incompatibility? The answer in general is, I presume, this. We think of incompatibles first as compatible, that is as elements united in one whole but divided by a distinction made in that whole. We then think of the suppression of this distinction with the result of a struggle between the elements for the possession of the individual unity. To think of incompatibles at all you therefore must represent them as partly compatible and as elements in one whole. This doctrine has important bearings.

III.—ON THE INTERPRETATION OF PLATO'S PARMENIDES. (II.)

BY A. E. TAYLOR.

A GOOD deal of discussion has been bestowed, as I think without need, on the question, What are the "One" and "Many" of the Parmenidean hypotheses? Is the "One" the supreme Idea which is elsewhere known as the "Idea of Good," and the "Many" consequently the rest of the contents of the Ideal world, or does the "One" represent any Idea and the "Many" the sensible particulars corresponding to it? As to this point, while we may notice that Parmenides expressly says (136 A) that the method is applicable to any Idea, his further specification (137 B) of the subject to be discussed as "his own" hypothesis of the One seems to decide for the first alternative and against the second. If what we are to examine is to bear any likeness to the Eleatic One, even as read by the light of a more developed metaphysic, then it must be no lower and partial kind of unity, but the ultimate unity of absolute reality, which we are invited to discuss. In more modern language, it is not simply the conception of system in general, but the conception of the world as an all-inclusive system, which Plato intends to unfold. This view is indeed so natural that its correctness would probably never have been questioned but for the following reflection. If τὸ ἐν be the absolute One it would seem that τὰ ἄλλα must be the world of subordinate Ideas. In that case however we shall be discussing not the old problem with which the first half of the dialogue was concerned, How is the Idea related to the particular thing? but a new and independent question of the relations of Ideas among themselves; and must therefore confess that we, like others, have failed to find a connection between the preceding pages and what follows. It seems therefore that, in spite of Parmenides' description of the subject under discussion, we ought to decide for the second of our two alternatives. Plausible

as this argument is, it rests to my mind on a fallacy, and a fallacy of which the previous reasonings of Parmenides should have disabused us. It assumes that very distinction of two "worlds"—a sensible and an ideal—which we have felt ourselves constrained to abandon. While we still allowed that unhappy superstition to infect our understanding it was of course natural enough to argue that a discussion about relations in the ideal world could not at the same time be a discussion of the relation of the ideal to the sensible world. Now, however, that we have abandoned our earlier dualism, we should be able to see that, as the supposed "two" worlds are one world, so the "two" questions are only two ways of putting the same question. As soon as we realise what Plato is constantly trying to make us understand, that the "ideal" world simply means the real world in so far as it becomes an object for knowledge, we should have no difficulty in seeing that the problem how one "Idea" can be present to many "things" and the problem how one "Idea" can while preserving its unity enter into relations with many other "Ideas," are only two ways of raising the same question. For a thing, in the only sense in which a thing is knowable, is nothing more or less than a certain system of Universals, or, in Platonic phraseology, Ideas. There is, of course, about a thing as sensible a something more or less which makes all the difference between the thing as merely thought of and the thing as actually present to sense. From the nature of the case, however, no one can give any intelligible account of what that "something" is, (*cf.* Plato's own language on a similar question, *Tim.* 51 B) and it has no bearing whatever on the difficulty with which we are concerned. The feat which we decided had to be accomplished if philosophy was to exist—the reconciliation of unity with diversity—confronts us just as much when we make any judgment about a thing which we merely think of as when we judge about a thing actually present to sense-perception. The conception of the world as a unity which can only exist so far as it is also a diversity is the answer, or part of the answer, to both problems. The proof that unity, so far from being incompatible with diversity, cannot exist without it, while dealing throughout with relations between *Ideas*, is the required solution of *our* difficulty about the connection of Idea and thing¹.

I do not propose to present any scheme or abstract of the connection between the various hypotheses at the present stage of our discussion. Convenient as such a scheme would be, its accuracy could only be tested after a laborious comparison of

¹ Cf. on this question Zeller, *Platonische Studien*, p. 167, 168.

its statements with the details afterwards to be given, and its proper place is where I have put it, at the end and not at the beginning of the enquiry. I will merely protest in passing against the misrepresentations which the desire for symmetry at any cost has introduced into some accounts of the hypotheses, notably Zeller's in *Platonische Studien* and Apelt's in *Beiträge zur Geschichte der Griechischen Philosophie*. Neither of these writers has been able to resist the temptation to arrange the hypotheses in four sets of antinomies, each antinomy starting from a common presupposition. Such an arrangement however only succeeds in obtaining an external symmetry by disregarding Plato's own clearly marked divisions between the various arguments. If we attend carefully to the breaks in the text we shall in fact see that the real number of separate arguments is not eight but nine, though it is true that two (the second and third,) are so closely connected that they may without any serious inaccuracy be treated, as Zeller has treated them, as one continuous argument. The case is different with hypotheses 8 and 9, which Apelt throws into one in order to get *his* symmetrical arrangement of theses and antitheses. These two arguments are, as we shall presently see, so far from being complementary that they actually exclude each other. To pass now to the consideration of the separate hypotheses in detail.

We may divide the hypotheses generally into two classes, (a) those which start from the affirmation of the world's unity, (*εἰ τὸ ἐν ἑστί*), (b) those which begin by denying it (*εἰ τὸ ἐν μὴ ἔστί*). Of the former class are hypotheses 1-5 (137 c-160 B), of the latter numbers 6-9 (160 B-166 c). In each of these two divisions we have a further sub-division; we trace first the consequences with respect to τὸ ἐν itself which follow from our original assumption (1, 2, 3, 6, 7), next those which relate to τὰ ἄλλα (4, 5, 8, 9). We have thus four questions before us which may be tabulated thus:—

- (1) If the unity of the world be affirmed, what judgments can we make about that unity? (1, 2, 3.)
- (2) If the unity of the world be affirmed, what judgments can we make about its multiplicity? (4, 5.)
- (3) If the unity of the world be denied, what judgments can we make about that unity? (6, 7.)
- (4) If the unity of the world be denied, what judgments can we make about its multiplicity? (8, 9.)

We shall however see directly that this arrangement of the hypotheses is based on the merely superficial characteristics of external form: their real relations of agreement and opposition we shall only be able to formulate at a later stage of our inquiry, after detailed examination of their contents.

Hypothesis 1 (137 C-142 B), which we will now proceed to examine, introduces us to one way of answering our first question. We must notice first the exact character of the assumption with which we start. That assumption, as stated in the words *εἰ ἐν ἑστῇ*, is a judgment of which only the predicate is enunciated, while the subject is left to thought to supply. This unexpressed subject is, as the course of the reasoning, as well as the linguistic usage, shows, τὸ ὅν or τὰ ὄντα, and the logical form of the hypothesis is therefore that of a judgment in which "unity" appears as the predicate which is affirmed of complete or absolute reality. We begin,—and this glaringly rash beginning will be the sole source of the perplexity in which we shall directly find ourselves,—by laying it down that a certain predicate is true of ultimate reality, and we then go on to exclude from that reality all other predicates which conflict with the one we have ascribed to it. This is done in detail as follows:—Reality is *one*: therefore it is not *many*. Therefore it has no distinction of *parts*, and having no parts is *not a whole*. Similarly it has no definite *limits* or *bounds*, and no *figure* or *shape*: both would imply that distinction of parts which is by our hypothesis impossible. For the same reason it has no *spatial position* or *extension*: (138 A) it can neither be contained in anything else nor in itself. For if contained in anything else, it must touch that which contains it at various points, which is inconsistent with its perfect unity, and if self-contained, it will be different *quā* containing envelope from itself *quā* contained, and this also is equally fatal to its unity. This argument may, I suppose, be paraphrased in more modern language thus. A world which is mere unity cannot have spatial determinations. For if, when we speak of the world as "being in" space, we think of space as in some way real independently of the world and enveloping it all round, we shall have to admit a multiplicity of relations between the world and the various points of space itself; and if we treat space on the other hand as "being in" the world, it becomes a set of relations between one part of the world and the world as a whole, and thus in either case we introduce diversity and multiplicity into the original unity.

Once more, *motion* and *rest* are alike inconceivable in a world which is such a unity. For we may conceive of motion in the widest sense as either (a) *qualitative* change or (b) *change of position*. As for the first, its irreconcilability with bare self-identity is at once apparent. And the second is no less out of the question. For the change of position may be either *relative* or *absolute*. If *relative*—as in the case of rotation round

¹ For otherwise we should have an extended world without extension.

an axis¹—it implies just that distinction of parts in the world's unity which we refuse to recognise. And if *absolute*—i.e. if the whole world be conceived of as changing its place, we come to a double contradiction. For (1) we have already seen that the world as a whole cannot be in place at all, and (2) still less can it "come into" place: for it could only do so by the gradual entrance of first one part of itself and then another into the given space. But it has by hypothesis no distinction of parts. Every form of change and motion must therefore be excluded from the real world, if reality be a mere self-identical unit.

Neither can reality be "at rest" or "unchanging." For to be "at rest" or "changeless" means to remain "in the same state" in which you already are. And we have already seen that reality never is "in" any "state" or "position." Thus "rest," "self-maintenance," or any other form in which we seek to express the permanent self-sameness of the intelligible world, proves in the end as unthinkable as its opposite.

But we may go much further than this (139 B). Dropping any spatial scheme or metaphor by which we have hitherto sought to understand what self-sameness is, we must raise the question whether *any* sameness with itself or *any* diversity from what falls outside it can be asserted of such an intelligible world as we are trying to maintain. And we are driven to admit that these predicates can in no way attach to bare unity. The real is neither identical with nor different from itself or anything else. Two of these conclusions lie at once ready to hand, and would probably be endorsed by "common-sense" philosophy. The real cannot be different from itself nor identical with anything else: were it different from itself it would no longer be unbroken unity; and were it identical with something else it would be identical with what is other than unity, and therefore itself no longer unity. We can also see that it cannot be *different* from anything else (139 c). For it is no part of the essence or nature of

¹ This is the only form of relative change of place Plato mentions, but the argument is of universal application.

² The vague nature of such expressions as *ἐν τῷ αὐτῷ εἶναι* makes it peculiarly difficult to set out Plato's argument in another language in its full force. The reference here is of course to the previous proof that the unitary real is not "anywhere" (see above). In translating into English it was unavoidable to make the spatial reference more exclusively prominent than it is in the Greek. But the reader will easily see that the same considerations which disposed of space may be urged against any systematic relations, whether of the real world to anything outside itself or of elements in the real world to one another. We may then proceed to develop Plato's argument thus. To remain unchanged means to remain "in the same relations." But we have already seen that the real cannot be in *any* relations. *Ergo*, etc.

unity to be relative to some other term and different from it. Hence if the supreme unity be different from anything else, it is not in its own right and of its own inmost nature that it has this quality of difference (τῷ μὲν ἄρα ἐν εἶναι οὐκ ἔσται ἕτερον...ἀλλὰ μὴν εἰ μὴ τοῦτῳ οὐχ ἑαυτῷ ἔσται, εἰ δὲ μὴ αὐτῷ οὐδὲ αὐτό) and therefore (as there can be no distinction within what is merely unitary between essential and unessential elements), the One is not in any way different from anything else. Neither is it really self-identical. For unity and identity are not the same thing: if both are predicable of reality they must be recognised as *different* aspects of it; its unity will be one thing and its identity another, and consequently the self-identical One will contain an element of diversity. But this is just what our hypothesis forbids us to admit. *Identity* and *difference* must therefore both be surrendered. *Likeness* and *unlikeness* must now of course share the same fate. For likeness is partial identity (τὸ ταὐτὸν πεπονηδός που ὁμοιον), and we have already found that to admit identity into the intelligible world is to admit diversity along with it. Similarly the argument which proved fatal to difference forces us to exclude *unlikeness*. The same reasoning may be extended to any attempt to determine reality by *quantitative* predicates. It can neither be *equal to*, *greater*, nor *less* than itself or anything else. For equality is a special form of identity, viz., identity in respect of *quantity*, and must therefore share the fate of identity in general. And any "more" or "less" when thought out implies parts. That is greater than something else which contains a greater number of equal parts; that smaller which contains fewer. Hence neither predicate can be applied to that which is *ex hypothesi* perfectly simple and indivisible. And thus quantitative distinctions have followed qualitative.

Lastly, can our One stand in any *temporal* relation whether of succession or of simultaneity? In principle these relations have been condemned already. For *simultaneity* is a new form of identity and, like all identity, cannot exist apart from diversity, while *priority* or *posteriority* is, in the same way, only another kind of difference or unlikeness. The one real is therefore neither before, nor after, nor together with itself or anything else. It follows that it has no existence in time at all. For whatever has duration in time may be said at any moment to involve three different relations. At each successive moment it is becoming posterior and therefore, by the same process, prior to itself, while it is of course throughout the whole time simultaneous with itself. And all these three relations have just been denied of the real. The real

is in consequence absolutely apart from time. Therefore—and this leads us at once to the paradoxical result of our hypothesis—it neither has been, is, nor will be, has become, is becoming nor will become. But what never has been and never will be is obviously destitute of all reality. The One therefore is absolutely *unreal*, and consequently is not even *one*: if it were, it would thus have some degree of reality. And finally, as there can be no possible points of contact between the real, and the utterly unreal, the One cannot be made the subject of speech, perception, belief or knowledge. It is unknowable, for the very best of reasons,—that it is only another name for nothing. Such is the necessary but altogether unbelievable consequence of our original supposition.

Thus the first of the Parmenidean hypotheses ends with the disproof of the very assumption with which it had set out. And the disproof has been perfectly serious and perfectly valid. Our impossible result has been due not to any skilful sophistry or ingenious quibbling in the argument, but to the secret error involved in the premiss from which we started. That premiss was that the intelligible or real world was a unity, and—as we tacitly added—a unity from which diversity is altogether excluded. And the irony of the Platonic method has consisted in turning this false assumption against itself. At each step of the argument the assumed incompatibility of unity with diversity has been recurred to to establish two opposite sets of conclusions. It has first been applied in principle much as the historical Eleatics or Megarians might have applied it, to show the absurdity of all predicates which openly ascribe multiplicity to the real world, and then in immediate succession to prove the equal inconceivability of those opposite determinations by which the Eleatics and their successors have sought to express their conviction of the world's unchanging self-sameness. Eleatic and Atomist, Megarian and Sensationalist are thus concluded in one common unbelief. The determination to take unity by itself as the absolutely real, and whatever is other than unity as simply unreal, has been found to lead to the complete severance of the world of appearance from the world of reality, and next and through this severance to the abolition of the latter world itself. Step by step, every predicate with which the Eleatic and the Megarian have invested the world of reality has been handed over to the world of mere appearance, till finally, on the unimpeachable principle that what has no qualities and produces no effects is nothing, its very existence has been pronounced to be illusion and mistake. There is nothing to know—such is the result to which we have been forced—and

you can know nothing about it. Such a result, I need not say, would be the death-warrant of all science, and it is not surprising that both Parmenides and his respondent refuse to accept it (*ἡ δυνατόν οὐν περὶ τὸ ἐν ταῦθ' οὕτως ἔχειν ; οὐκ οὐν ἔμοιγε δοκεῖ* 142 A). They are thus compelled to retrace their steps and once more to investigate the consequences which flow from the admission that the world is a unity, and this bring us to the second of the nine hypotheses.

The second hypothesis (142 B—155 E) is the longest and by far the most intricate and difficult piece of argumentation in the dialogue, and will necessarily give us some trouble before we have done with it. Fortunately however, whatever may be its difficulties in detail, there can be no doubt about the general point of view by which it is distinguished from the preceding hypothesis. Plato does not, like the writer of a set Handbook to Metaphysics, stop to point out in so many words what was the flaw in our first crude conception of the world's unity, and in what way that conception is to be emended, but the first steps of the renewed discussion of themselves indicate the change in standpoint with perfect clearness. We started before with the hypothesis "*Reality is unity*"; we are now to start from "*Unity is real*." In the first case unity was taken as the sole predicate of a reality not otherwise definable; it is now to be taken, grammatically as the subject of an existential judgment, logically as one predicate among others of a reality which is not identical with itself. And this difference of starting-point leads to a similar difference in procedure. We began before by assuming that we knew already exactly what kind of unity the world possesses, and we then went on to rule out of the real world whatever predicates refused to combine with it: we shall now more modestly and philosophically begin by reminding ourselves that the unity of which we are in search must before all things be compatible with the general nature and universal conditions of real existence, and we shall go on to see what qualifications and restrictions this general nature of reality imposes upon it. What is one cannot be anything else but one was the axiom of our first hypothesis; what is one must nevertheless be real will be the axiom of the second. The consequence of this change of attitude, as we are now to see at large, will be that, whereas previously all predicates were excluded from reality, all will now be, in various senses and different relations, attached to it. In proceeding to paraphrase the reasoning by which Plato seeks to establish this important result, I am bound to warn the reader that while the general drift of the lengthy argument is to my mind unmistakable,

I do not by any means feel the same confidence in my own interpretation of all the details; in particular, in several places, to which I shall call attention in the course of my exposition, I can hardly profess to have done more than hazard a tolerable guess at Plato's meaning.

We start then from the assumption "unity is real." This judgment, like all other judgments, is more than a mere identity. "Unity is real" is not simply another way of saying "unity is unity." Unity and reality then are not merely identical; they are complementary aspects of the full reality. And if "unity" and "reality" are distinguishable aspects within a whole, then the whole will be that "real unity" of which both are predicable, and either aspect may be called a "part" of the whole. Thus if the ultimate unity be also real it can only be in the form of a whole within which aspects which are distinct nevertheless come together. These aspects or "parts," as Plato calls them, are in the widest sense two,—the ideal unity, or as we may say, if we will carefully keep the notion of conscious teleology out of our heads, the *plan* of the world, and the *reality* in which that plan is carried out. And within each of these aspects of the single reality when examined in abstraction from the other the same division repeats itself (142 E). The "unity" and the "reality" alike contain both of the same twin aspects which constitute the whole. That is, I suppose, the "system" or "plan" which we set on one side as one of the two interacting factors turns out to be a "system of systems," while the "material" in which it is realised has to be thought of as already organised into a variety of subordinate systems. And this process of subdivision has no perceptible limits. However far you carry the distinction of "form" and "matter," or "reality" and "ideality," you never come across any element of reality which does not involve both. Thus, as Plato says, whatever "part" you take of reality you always find these same two "parts" within it, and the original unity, just because it must be real, must also exist in the form of an indefinite plurality or multiplicity of "parts" (143 A). Again, just as we have shewn that a real unity presupposes parts, we may by the same methods of reasoning show that the "unity" even taken in abstraction from the reality presupposes a plurality of numbers. For, taking them merely as abstract determinations of thought without any reference to the concrete character of the whole which they constitute, unity is other than reality and reality than unity. Hence arises a third abstract thought-determination, "difference," which is not identical with either of the two former (143 B). These abstract forms of thought, like

everything else which is capable of distinction, lend themselves to the process of *counting*: we get "unity," one, "reality," two, "diversity," three: or "diversity," one, "unity," two, "reality," three, and so on. Thus a mind—it is in this way I understand Plato's rather minute argumentation—which can form the thought of "one" and distinguish it from other thoughts is at once driven forward, even if it has nothing but its own abstractions to count, to form the ideas "two" and "three." And from two and three, the first even and the first odd number, can be derived by successive multiplication the whole numerical series (144 A) which is, of course, unlimited¹.

Thus the admission of unity as a determination of the real brings with it the equal admission of the whole numerical series which arises logically from it. Reality is thus so far from being a mere self-identical unit that it is shared among an indefinite number of subjects, and is present in everything that has any kind of existence, be it great or small (144 B). We might indeed have reached this conclusion more directly, for there is a patent absurdity in the notion that anything that has existence should be completely devoid of reality. Reality is thus manifestly cut up and sundered into a perfectly unlimited number of different "parts" or "aspects," and is so far from being merely a unit that we may say there is nothing else so hopelessly torn by internal divisions (πλεῖστα τὰ μέρη αὐτῆς)—except indeed unity itself, the case of which is equally desperate. For each "part" of reality so long as it exists is *one* definite part; otherwise we should have parts which were yet no parts and things which were nothing. Thus for every division in the internal constitution of reality there is a corresponding rent in its unity. Each and every part is a unit and yet the whole so constituted is a unit also. We have seen τὸ ἓν—if I may indulge in a slightly fantastic metaphor—already producing the whole infinite numerical series out of its own bowels; we now find it begetting by fission an innumerable multitude of lesser ones, each of which seems as much a unit as itself. So (144 E) unity is compelled by its conjunction with reality to disappear in an infinity of fractions. This brings us to the first of the conclusions which we are entitled to draw from the conception of the world as a unity. "*Not only is reality many, but unity itself from its connection with reality necessarily divides up and becomes a plurality.*"

¹ Plato has overlooked or omitted the case of "prime" numbers, which are neither περιττὰ ἀρτιάκις nor ἀρτὰ περιττάκις nor περιττὰ περιττάκις and can only be formed from 2 and 3 by addition. The omission does not in any way affect the principle of the argument.

Being now perfectly clear on this fundamental point, we may make the attempt once more to vindicate for reality the various classes of predicates which the repeated application of the principle that unity is incompatible with diversity compelled us successively to surrender. We begin as before with relations of a spatial character. The world of reality, being, as we have seen, a system of parts forming a single whole, must be "*limited*" or "*finite*," in the sense that the parts are contained within, and completely determined in every way by, the general character of the whole. We may speak therefore of the whole as "*limiting*," or quite literally "*determining*," its subordinate parts, and we have to add to the statement that reality is numerically infinite the correction that it is also finite. But, proceeds Plato, if finite it has boundaries, and, as a whole, it has beginning, middle, and end, of which the second is equidistant from the first and third. *It can therefore have the spatial qualifications of extension and figure.* In judging of the value of this argument we must take care to keep in mind the peculiar nature of metaphysical proof. There can of course be no such thing as an *à priori* demonstration that reality must appear in a spatial form and in no other. If our ordinary experience did not make us acquainted with the fact that reality does appear in such a form, we certainly could not have made the discovery for ourselves. All we can do is, now that we have learned from experience that things do appear as in space, to ascertain what are the leading characteristics of spatial existence, and convince ourselves that they are not inconsistent with the general nature of the reality which we suppose to underlie all appearances. And this is the character of the reasoning in the present passage.

It is shown that the unity of the world is not merely consistent with diversity, but actually demands for the manifestation of itself a concurrent diversity which is combined into a definitely ordered system; and such systematic relations are familiar to us, among other forms, in the shape of figure and extension in space. There is therefore nothing in the character of spatial relations incompatible with their being a mode of the appearance of what is ultimately the single reality. We are not bound in the interests of our belief in the fundamental unity of the real to treat the spatially extended as simply unreal, and we may therefore accept it on the authority of experience as one aspect among others of reality. Thus understood, as a defence of the partial reality of the spatial world against the objections of the first hypothesis, the argument will, I think, be found to be sound. It is of course possible that Plato looked upon it as being more than

this: the very vagueness and allusiveness of the terms employed in the reasoning, *πέρας*, *ἔσχατα*, etc, give it a spurious appearance of being just such a direct deduction of spatial relations from the general nature of the Absolute as we have called impossible.

From spatial relations we proceed to all those other leading characteristics of the world of actual experience which our first hypothesis banished one by one from the world of reality. (1) The one reality is *self-contained*. For each and all of the parts or aspects of the whole are contained by the whole without exception. And the whole which contains them all contains them without excess as without defect: for there is nothing in the world but what is in the parts. Thus when we say that the whole contains the parts we are saying that one and the same reality appears both as what contains and as what is contained: we are ascribing to it a permanent *self-containedness*. (2) And yet the one reality is *outside itself*. For though the parts are contained in the whole we must not say that the whole is contained in the parts. For if it is in all together it must be in each separately; while just because it is the whole it cannot be in each single part nor in any number short of the total. It is therefore, from this point of view, not self-contained, and as that which is nowhere is nothing, must be permanently outside itself and appear in a foreign medium (*ἐν ἄλλῳ*)¹. We may therefore restore to the list of predicates which are true of the real both (3) permanent *rest* or *changelessness* and (4) perpetual *change* or *motion*. For in so far as the one reality remains always self-contained and self-identical it is for ever free from every form of change and disturbance, and is thus always at rest; while in so far as it is never self-contained but always manifests itself in a foreign medium it is always undergoing change. Thus the second point which we have reached is the affirmation about reality in one sense and the denial in another of the most prominent characteristics of the perceived world: reality both is and is not self-contained, is always and is never at rest or in motion. (146 A.)

Of all the reasonings of Parmenides in this hypothesis the latter part of the present argument is perhaps that of which it is the most difficult to perceive the exact meaning and force. Two points call for special remark.

(1) With what warrant is it assumed that the whole cannot be contained in all its parts taken collectively unless it is also

¹ The *ἄλλο* in which *τὸ ἐν* appears is of course the same as the *ἄλλα* which are called its "parts." This is made certain by comparison of 140 E with the repeated statement of 151 A and 159 B that *τὸ ἐν* and *τὰ ἄλλα* between them exhaust the content of existence.

contained in each severally? Not merely is no proof offered of this assertion, but it seems on reflection of very doubtful truth. No conception is more familiar to us than that of a whole which is the sum of its parts: in geometry and still more in arithmetic the wholes with which we deal are entirely of this kind, and it certainly seems as if the principle which Plato here assumes as self-evident would, if accepted, make the latter science impossible. For it would at once dispose of all equations in which a total obtained by addition or multiplication is substituted for the sum or product of its factors. $12=7+5$ we believe to be true, and yet it is certain that $12=5$ or $12=7$ is false, though on Plato's principle either all three judgments should be true or all three false. (2) And further in the argument from the externality to self of reality to its perpetual motion is there not a subtle subreption? All that the foregoing proof, even if we overlook our misgivings about its premisses, establishes, is that the one reality somehow exists "*ἐν ἄλλῳ*." But when Plato undertakes to deduce from this the perpetual motion of the real he substitutes for the words *ἐν ἄλλῳ εἶναι* the words *ἀεί ἐν ἑτέρῳ εἶναι*, where the inserted *ἀεί* seems by the changed shade of meaning it gives to the *ἕτερον* to bear the whole weight of the inference. For the *ἄλλο* in which *τὸ ἐν* appears might for all that we know to the contrary itself be something fixed and unchanging: the addition of the *ἀεί* creates a grammatical ambiguity which secretly introduces into the premisses the very notion which we are seeking to infer from them. To these serious objections I can only offer the following rejoinder for what it is worth.

(1) The principle that if a whole be contained in its parts taken all together it must be in each severally is certainly not universally true. In the case of numerical, and to a less degree of geometrical, wholes it is distinctly false. For the special character of a numerical, as distinguished from any other kind of whole, is that it is simply the *sum* of its component parts taken in any order you please, and nothing more. The relation by which the parts are formed into the whole is simply one of juxtaposition. And—with the added restriction that in this case the parts must be combined in a particular order—the same is true of geometrical wholes. The principle becomes valid however if we make, as I suppose Plato must be making, the tacit assumption that the unity that reality possesses is not that of mere juxtaposition in space, but is rather analogous to an all-pervading plan or system in accordance with which the behaviour of any subordinate part of the whole is determined. If this be the case it is clear that though the single plan of the whole contains no element which is not supplied by its parts,

yet the whole itself is something more than the sum of the parts. We may illustrate this by reference to any elaborate mechanical system, as *e.g.* the works of a watch. The unity which in this instance pervades the whole is that of a definite plan to the realisation of which each part of the whole has to contribute its share. And it is manifest that while there is no single part of the work to be done which is not performed by some one particular cog or wheel, no mere summation of the separate wheels will give you the whole. For even if by some lucky chance you arrange the separate parts in their proper order, you have still not got the whole: you do not arrive at that until you have set the machinery to work so as to produce the realisation of a plan or idea which is not contained in its fulness in any of the parts nor in any stationary arrangement of them all. Thus of all such wholes as consist in the realisation, by means of the working of subordinate parts, of a general plan or idea it is true to say that, while the whole contains the parts, the parts as such do not contain the whole. It "transcends" them as well as "inheres in" them.

(2) With regard to the second difficulty, I would recall what I have already said about the peculiar character of metaphysical proof. The existence of motion can no more be demonstrated from general principles than that of space. All we can do is to show, against negative criticisms, that the prominent peculiarities of motion are not such as to conflict absolutely with the kind of unity which it is reasonable to ascribe to reality. If we can do this we are entitled to conclude that there is no reason why motion should not attach in some way, as a partial appearance, to a reality which is at the same time one and self-identical. And so much at least follows, I think, from the admission that the one reality does in any case manifest itself in a medium external and foreign to itself. If it can thus disguise its unity sufficiently to appear as a vast plurality of more or less independent parts, what right have we to set any limits to its powers of masquerading? And so we may perhaps admit that Plato's argument is independent of the surreptitiously introduced *αἰέ*. At the same time, one cannot help feeling that the ambiguity created by the *αἰέ* may have served, like the ambiguity of the *πov* and *ἐν τι* in the previous case of extension, to give the argument for Plato the delusive appearance of a rigid deduction of phenomena from first principles.

We proceed now from the two prominent features of the visible world, extension and motion, to the most general of qualitative relations—identity, difference, likeness, unlikeness. We may assert one of two, or at any rate one of three, relations

about any two subjects we please. Either they are the same, or they are different, or lastly, in the case where we can predicate neither of these relations, one of the things stands to the other in the relation of part to whole. Two of these relations may at once be denied of the One. It is not a part of itself, and it is not anything different from itself. Only one possibility remains. The One is identical with itself. But yet again we have seen that the "One" or reality is in some sense "outside itself," (*ἐτέρωθι ἑαυτοῦ*) while yet in another sense it is self-contained. And as these two aspects are different it must be true to say that the same reality as existing "outside itself" is different from itself as self-contained. *Thus the real is both identical with and different from itself.* Again there must be a difference between unity and whatever is not unity. Unity or the One is therefore different from the multiplicity which exists side by side with it. And from this, on the principle that identity and difference are irreconcilable, we might be inclined to deny that τὸ ἓν can be in any sense the same as τὰ ἄλλα. But we may see that the attempt to carry our own assumption to its logical conclusion would yield the opposite result. This is proved as follows. Identity and difference are, we say, absolutely irreconcilable. But it follows at once that difference cannot have any place in the world. For if difference persist even for a moment, then for that space of time it has proved itself compatible with the continued identity of the subject in which it exists, and thus τὸ ἕτερον has existed for the time being ἐν ταύτῳ¹. From the alleged incompatibility of identity and difference it follows therefore that difference can exist neither in the One nor in the Many. And as they cannot be different in virtue of a mere act of "position" without presenting definite points of distinction, (so we may paraphrase οὐδὲ μὴν ἑαυτοῖς γε ἕτερον ἂν εἴη ἀλλήλων μὴ μετέχοντα τοῦ ἑτέρου) they simply do not differ from one another. And further on our own principle that what is different cannot be in any way identical we must not conceive

¹ This argument reads to us very like a sophism. Nothing is more obvious than that it only proves that if a thing *A* exist at all it must at any moment be identical with and different from itself at any other moment of its existence. It has not proved what we want, viz., that *A* cannot be different from *B* which coexists with it without also being in some way identical with *B*. To us it seems self-evident that *A*'s identity with *A* does not in any way conflict with its difference from *B*, nor help in the least to establish its identity with *B*. But this conception of an *A* which has opposite predicates according as it stands in relation with different things is just what the believers in such a unity as Plato is refuting refuse to entertain. Their position is this. Either *A* is identical or it is different, and they will not allow you to say, "It is both—it is identical with *A* and different from *B*." So that against *them* the argument holds good.

of the Many as a *number* of units: that would be to ascribe to the manifold the very unity we wish to deny of it. So that the One is not related to the Many as part to whole (147 A). Nor yet as whole to part for the same reason. But we have previously decided that if two things are neither different nor yet related as whole and part they are the same. Thus the very attempt to be logical in our assertion of the absolute difference between unity and multiplicity leads to their absolute identity. Thus, summing up, the one reality is at once identical with and different from itself and the manifold it presupposes. Or, as we may expand the statement, what is real is a single whole which nevertheless appears as a multiplicity of parts, and it contains nothing but the parts, while it is not any one of them nor all of them taken together.

From the establishment of relations of identity and difference between the One and itself and other things we can now go on to establish those of likeness and unlikeness. For, Plato argues, (147 c-148 A) the very fact that the One and the many are different implies that they are also alike. You say not only "the One is different from the Many," but also "the Many are different from the One," and the difference referred to in the two judgments is one and the same. The same identical quality has appeared twice over, once as a predicate of the One and again as a predicate of the Many (147 D-E); and things which have an identical predicate (τό που ταῦτόν πεπονθός 148 A) are called "like." Thus just in so far as the One and the Many are different they are also alike. The conclusion is of course sound, but the reasoning is, I fear, more than doubtful. It seems hardly permissible to treat a relation between *A* and *B* as if it were a mere adjective which could be attached to either term by itself at pleasure, and then to postulate a new relation founded on the presence in both *A* and *B* of this same adjective. Even ordinary language recoils from such an attempt to make the relations "inhere in" their terms in this way, and takes refuge in the ambiguous word "between." (See Bradley, *Appearance and Reality*, p. 32, footnote.) But in the *Parmenides* relation and quality are only beginning to be distinguished from one another.

To return to Plato's argument. The One is once more not only like but also unlike the Many. For, as we have seen, it is not only different from but also identical with them. And since difference implied likeness, identity being the contrary of difference will imply the opposite relation of unlikeness. And yet again we may reverse this result. For in so far as two things are of identical quality (ταὐτὸ πέπονθεν), their quality does not differ, and they are therefore not unlike but like, while in so far

as two things have different qualities they are unlike (148 c). Thus both the identity of the single reality with a multiplicity and its difference from it imply the double relation of likeness and unlikeness. And since we have seen that reality is both identical with and different from itself it must stand to itself also in the same complicated relations. *So that it is both like and unlike itself and its opposite.*

Parmenides next asks (148 D) does the One stand or does it not stand in relations of *contact* with itself and with the plurality it implies? It is impossible to say how far the spatial language of the following argument (*ἄπτεσθαι, χώρα, ἐφ' ἑξῆς*) is literal or how far it may be simply metaphorical. How little violence would be done to such language by taking it as in the main symbolical we shall easily see if we reflect on the extent to which, even in English, we have to employ such terms as "aspect," "thread of connection," "points of contact," to denote relations of an entirely non-spatial kind. And I think we may say that Plato's reasoning, while ostensibly confined to spatial contact, will apply with equal force to any conception of the mutual interrelation of reality and its various "parts." Inasmuch as the whole is self-contained we may speak of it as "in contact" with itself; and, again, inasmuch as it is contained, as we have already learned, in what is not itself (*ἐν ἄλλῳ*) it will again be in various relations of "contact" with this multiplicity which contains it (148 E). So too we cannot avoid sometimes distinguishing, or seeming to distinguish, between the single unity of the world-plan and the multiplicity in which it is carried out, and we then say, in more modern but equally spatial phraseology, that the general scheme of the whole assigns to the particulars their proper places, or, again, that the particular is what it is in virtue of its manifold connection with the whole.

But, on the other hand, such expressions are not true without qualification. For contact (148 E) only takes place between two bodies which occupy adjacent places. And reality is *one* and not two; and since it cannot become two there is no second reality for it to be in contact with: it cannot therefore strictly be said to be in contact *with itself*. Nor yet with its complement and opposite. For one act of contact is only possible between two definite points, two contacts between three points, and so on. Contact in general, that is, is only possible at definite points, and the plurality which we think of as the counterpart of unity must not even be taken to present a number of definite distinguishable points. For to make that plurality into a definite number of units is to introduce into it the conception of unity. Considered in ab-

straction from unity, as its complement and opposite, it can only be thought of as a vague and as yet undetermined *Mehrheit*, (cf. the relations between the ἀπειρον and the πέρας at 158 D and in the *Philebus*) which presents no definite points at which the One may enter into contact with it. Thus the one reality *not only is but also is not in "contact" with itself and with its inherent multiplicity*. To revert to our former illustration from modern phraseology, we can easily see that reality, strictly speaking, cannot enter into relations with itself, and when we talk as if it could we are making a necessary but ultimately untenable distinction. For ultimately the whole which, as we say, assigns their "places" to the "parts" and the "parts" themselves are one and the same single reality. There are thus ultimately not the two terms which are essential to "contact" or "relation." And clearly reality can stand in no relations to what is beyond it and so merely unreal.

We must now turn from the most universal qualitative to the most general quantitative predicates. We are to see that the One is, according to the way in which you look at it, alike capable and incapable of the various relations of equality and inequality with itself and its opposite (149 D—151 E). The reasoning, which is unfortunately far from being cogent, proceeds thus. Here, as in previous cases, we begin by pointing out that if the One enters into these relations it cannot be in virtue of an act of mere "position" (οὐκ ἂν τῷ μὲν ἐν εἶναι κ.τ.λ.). We shall once more have to distinguish the "unity" of the One and the "plurality" of its counterpart, which constitute their inmost essence, from the non-essential "greatness" and "smallness" which we predicate of them. Or, in the familiar Platonic phraseology, if these predicates of "greatness" and "smallness" are to attach to reality in any way, we must be able to affirm the real existence of two Forms or Ideas, "greatness" and "smallness," by "possession" of which reality is entitled to be called "great" or "small." Very well; but if "smallness" is present in the One at all, it must qualify either a part or the whole of it. But "smallness" cannot attach to reality *as a whole*, for in that case it is either equal in extent to it or extends beyond it. The "small" will either be another name for the one reality or it will be something still more comprehensive. Either supposition is absurd: the "small" is that which is smaller than, not that which is equal to or greater than something else. Thus this "smallness" is not a predicate by which you can qualify reality as a whole. And the same reasoning holds good of any subordinate part of reality you choose to consider. Smallness there-

fore is not a quality of reality as a whole nor of any part of it taken by itself, and nothing can be truly called "small" except the abstraction "smallness" itself. And of course with the disappearance of "smallness" its correlate "greatness" also vanishes. Thus reality and its parts cannot be said to be greater or smaller than each other, nor can any such relation subsist between reality and the abstractions "smallness" and "greatness" themselves; for they, in virtue of the principle invoked by Parmenides at 133 c, are relative only to one another. But when one of two things is neither greater nor smaller than the other, neither exceeds it nor falls short of it, they stand in the relation of equality and are called equal. The one reality will therefore be *equal* both to itself and to its parts (150 E). Yet this conclusion is not the whole truth; for, as we have already seen, reality is self-contained; we may then once more distinguish between reality as containing and the same reality as contained, and we may say that the one reality is at once *greater and less* than itself. Or, perhaps one might expand this result; we are driven on the one hand to take reality as = the whole contents of the world-plan, while on the other doubts arise as to whether what is past and what is still to come are not *unreal*; there can be nothing unreal in the one reality, and yet, unless becoming is a mere empty delusion, there seem to be parts of it which are no longer or are not yet fully real.

This conclusion is still more manifestly what Plato has in his mind as he proceeds to describe the relation of $\tau\acute{o} \epsilon\nu$ to $\tau\acute{\alpha} \acute{\alpha}\lambda\lambda\alpha$. What is nowhere, he continues, is nothing; what *is* and is real must manifest its reality at some definite point—must, as he phrases it, be "in something." And as there is no third reality over and above the One and its counterpart the Many, the One and the Many must "be in" one another. The One, that is, is only real so far as it realises itself by appearing in the plurality, the Many only real in so far as they are the appearance of the One. And in so far as you speak of the One appearing "in" the Many, it would seem to be less than they, while, in so far as the Many only exist in the One, they appear to be less than it. Or, to revert to our expansion of the argument, in so far as reality is only that which makes itself felt as *present* reality, there are past and future elements of existence which we must call unreal; but, in so far as the ultimate reality is an indivisible whole, what is present reality at any moment falls far short of being the whole reality. Thus, in conclusion, in one sense or another, all three relations of equality, excess and defect can be asserted—or denied—to hold good between the One and the

many (151 B). The extension of the argument from merely quantitative to definitely *numerical* predicates follows naturally, and we need not stop to consider it in detail. On the latter or affirmative part of this piece of reasoning it is not perhaps necessary to make any remark; my paraphrase has already sufficiently explained what seems to be the general sense of it. The negative argumentation however is of so peculiar a character that it must not be passed without a word of comment. I have already called attention to the important point that Parmenides begins his argument at 149 E by asserting that "greatness" and "smallness" can only belong to a subject in virtue of its participation in the corresponding "Form"—a coincidence between the teaching of our dialogue and that of the *Phaedo* which shows how far Plato was when he wrote the *Parmenides* from entertaining that objection to "Ideas of relations" which is shared with Aristotle by several modern scholars. The reasoning which is based upon this principle is unfortunately more open to criticism than the principle itself, which has only been decried when it has been first misunderstood. It is easy, of course, to see that Plato's general contention is perfectly correct. If you treat a *relation* such as that of "more and less" which can only exist between two terms as if it were a *quality* that could attach to either term taken by itself you are led to illegitimate or absurd results¹; and it is quite certain that "res absolute in se spectatae" are neither great nor small. But Plato does not seem to be at all adequately aware of the monstrous character of the confusion in question, and here, as once before in the *Parmenides*, and frequently enough in other dialogues, we have painful evidence that he had not the advantage of writing with Aristotle's table of categories before him, and that the difference between a "quality" and a "relation" was by no means clearly fixed in his mind. Hence, side by side with antitheses both the positive and the negative parts of which are of high importance for a true understanding of the world, we have, in the present case, one of which the negative half contains so little truth that is hardly worth calling a truism and might easily be mistaken for a sophism. And still more serious objections, which are too obvious to need pointing out, can be brought against the inference that whenever two things do not stand in the relation of "more and less" they are equal.

We come now (151 E-155 D) to the final step in the long and intricate argument of the second hypothesis. It will be

¹ We found Plato himself making a similar blunder at 147 D, E.

remembered that the result which was immediately fatal to the reality of τὸ εἶν in the first hypothesis was its failure to appear in the time series. For, though a thing might conceivably be real without possessing some of the other predicates which have been canvassed, it seems only too manifest that what never succeeds in making its presence felt is, at least for us and for any philosophy we can create, nothing at all. Hence the climax of the procedure by which we have laboriously vindicated for reality the various predicates of the actual world will be our proof, if we are able to give one, that the unity of the real is compatible with the conflicting determinations to which all that appears in time is, as we have seen, liable. We begin our demonstration with the temporal relations of the real One to itself taken as a whole. And first as to the main point, the possibility of time predicates in general. Once more we remind ourselves of our original starting-point, which was that the ultimate reality—whatever it is not—is something *real*. And we once more have recourse to a principle which has served us well already—that that cannot be real which does not appear as *present* reality. To *be* real (151 E-152 A) is to be real in the *present*, just as to *have been* real means to have *once* been present reality. Hence, from the reality of the One, we can conclude at once that it must make itself felt in a *present*, and thus appear in *time*. And if it appears continuously in time the real must be constantly becoming posterior and consequently also prior to itself. And becoming is only thinkable as a constant transition out of the present into a future which is not as yet present. And so, at any moment at which we choose to think of this process as arrested, we may say that the One not only is becoming but has become and actually *is* both prior and posterior to itself. But again the various present moments taken together make up the whole period of the One's existence, and consequently we may say that throughout its whole existence it is perpetually in this double relation of priority and posteriority to itself. While lastly, taking the whole period of its existence as one eternal present, we may say with equal truth that it neither becomes nor is prior nor posterior to, but is for ever simultaneous with, itself. Again, with reference to the relation between the one reality and its parts, we may make similar judgments. For the one reality is a unity and its parts a multiplicity. And on the principle that the simple is prior to the complex, we must hold that the one reality is prior to the manifold in which it appears. But yet again the plurality is a plurality of *parts* of the one real, and the whole reality therefore seems not to exist until all its parts—beginning middle and end—have successively become real, and thus

it would appear that the Many are once more prior to the One. Lastly, as we are now convinced, each of the many parts is itself a unity, and thus each involves that systematic character which is distinctive of the One; so that the One and the Many are simultaneous. Summing up then, the One stands not only to itself but also to the Many in all three relations of simultaneity, priority, and succession. In like manner we may say of what we call the Uniformity of Nature that while its previous existence must be presupposed in every attempt to explain any set of facts, so long as there remain any facts to come it seems not to be fully realised, while yet we cannot resist the conclusion that ultimately it and it alone is the one ever-present reality. Here the consideration of the temporal relations of τὸ ἐν might profitably end, but Plato goes on in the spirit of paradox to develop a further set of contradictions which are entirely without metaphysical significance and are only reached by manifest sophistry. We have seen that the One both *is* and *is not* prior and posterior to the Many; can we say that it always and never is *becoming* prior and posterior to them? The arguments which are produced to justify a conclusion on this point are almost untranslatable and turn on a mere quibble or equivocation about the meaning of the words πρεσβύτερον and νεώτερον. Hitherto these terms have been used simply in the sense of prior or posterior; Plato now takes them literally as = "older" and "younger," and moreover—with an ambiguity which can hardly be unconscious—understands νεώτερον γίνεσθαι at one time to mean a reduction of the actual interval by which one person or thing is said to be "older" than another, at another the diminution of the proportion between this interval and the whole "age" of the persons or things in question. In the former sense it is clear that neither τὸ ἐν nor anything else can ever become "younger" or "older" than that with which you compare it. What is once "older" or "younger" than something else by a given quantity of time—say, two years—will always be "older" or "younger" by just that same interval. Thus we may say that, as we have shown, the One *is*, and *has* become, but never that it *is becoming* "older" or "younger" than its many parts. And yet, on the other hand, as time goes on, the interval in age between two things is perpetually growing less, relative to their whole duration. A man of sixty, Plato perhaps reflected, can hardly be said, for any but the most superficial purposes, to be as much older than a man of fifty as a youth of twenty is older than a child of ten. Thus we may say that the older of two things is always growing younger with respect to the other and the younger older, and this process

though never ceasing never exhausts itself; the interval however much reduced never vanishes. Hence, as we have shown that either the One or the Many may at pleasure be regarded as prior to the other, we may say of both that each is perpetually becoming, though it never finally becomes, at once "younger" and "older" than the other (155 c), and with this problematic result our investigation of the puzzling relations of the one reality to its parts in time comes to an end.

Finally, it only remains to draw the formal conclusion from the appearance of reality in the time series. As so appearing it can be qualified by all the determinations "is," "was," "has been," "will be." And each of these time-determinations can be combined with the attribution to it of all sorts of qualities and relations (*εἴη ἂν τι ἐκείνω καὶ ἐκείνου*). So that the way is open for the reference to the one reality of all the varied judgments as to what is, has been, or will be, which make up the body of our knowledge. And indeed the very fact of our being able to make it the subject of our present discourse and thought etc. (155 D) shows that it is accessible to knowledge, opinion, and even to *sense-perception*. (*ἐπιστήμη δὲ εἴη ἂν αὐτοῦ καὶ δόξα καὶ αἰσθησις*.) So, reversing in every detail our first result, we add it can have and actually has theories formed about it and a name bestowed on it: and, in short, whatever is true of any object of knowledge *quā* object of knowledge is also true about the Supreme Reality. (*ὅσαπερ καὶ περὶ τὰλλα τῶν τοιούτων τυγχάνει ὄντα καὶ περὶ τὸ ἓν ἐστὶ*.)

Thus the nett result of the long and complicated reasoning of 142 B-155 E is this: that if we once start with the conviction that the ultimate reality must at least be real we are driven so to conceive of its unity as to permit the recognition of all the diversity of the actual world as falling somehow within it. Every affirmation and every negation that can significantly be made about anything in the world will come in the end to be a partial statement of the nature of the single and ultimate reality. Judgments which assert the world's unity or its diversity, which attach to it spatial, temporal, qualitative and quantitative relations of the most various kinds will all have their own truth, while none will be the whole truth. This last qualification is added advisedly; it seems to me to be the main if not the only function of the negative side of the successive contradictions of the argument to remind us that every assertion we can make about the real on the strength of our experience is, though true, only a part of the truth. And I hope I am not reading modern notions into Plato when I say that I find the underlying idea of the whole in the conception

of a reality which, while it can only be real because it realises itself in the details of experience, is never fully realised in any of them. I shall recur to this conception later on. Meanwhile there remain two points, both of some importance, to which I would call attention before finally leaving the hypothesis over which we have delayed so long. The first point is one to which I have already devoted a few remarks, the entire absence of anything like Hegelianism from the antitheses of Parmenides. What I have already said on this subject is, I think, fully borne out by the argumentation we have passed in review. We have, it is true, been presented with a series of antitheses each side of which has been equally asserted as true; but there has been no attempt either to present inner contradiction as characteristic of every conception nor, which is the special property of Hegel, to treat the various categories under which we think of the real as begotten out of one another by the attempt to reconcile this contradiction. We have, indeed, in the case of the conceptions of unity and sameness had a demonstration that each directly presupposes its own opposite, but in the remaining cases Plato has been content with simply proving first one side and then the other of the contradiction by supplying on each occasion the conditions under which the judgment holds good, without any attempt to make the one side of the antithesis arise, by a dialectical necessity, from the other; while in more than one case, notably in that of the puzzles connected with time, the antithesis combines elements which have real philosophical significance with others which are little better than quibbles. (Compare also my abstract of the next hypothesis.)

The second point to which I would call attention is to my mind of much greater importance. We saw that Plato in concluding the argument at 155 D asserts that τὸ ἔν, the supreme reality, can be the object not only of full and adequate knowledge but even of opinion and sense-perception. The bearing of this passage on certain views both ancient and modern is obvious. Taken in connection with the attack on the absolute separation of γένεσις and οὐσία in the *Sophistes* and *Theaetetus* (*Soph.* 248 ff., *Theaetet.* 155 E), and the conception of γεγενημένη οὐσία in the *Philebus* it forms perhaps the most decided repudiation possible to Plato of the doctrine frequently ascribed to him by persons whose knowledge of his system is derived from a superficial reading of the *Republic*, that the world of knowledge and the world of perception are two different worlds, and not the same world more or less adequately apprehended. And it thus on the one hand serves to mark most emphatically the difference between the Platonic One and such a unity as was asserted in the physical sphere by

the Eleatics and in the metaphysical by the Megarians, while on the other it answers by anticipation the statement of Apelt that Plato treats sensible appearance as mere *Nicht-Seyn*, and the theory of English believers in the "transcendence" of the Idea that sense-perception is the *merely* shifting and unstable. With regard to the "transcendent" Ideas of Megarianism one might say that the whole of hypotheses 1 and 2 are no more than the elaboration in detail of the contrast which Plato draws more briefly and more rhetorically in the *Sophistes* between a reality that stands "moveless and mindless" like an "holy image" and a reality which is fraught with "motion and soul and life." (*Soph.* 249 A.)

We might now, it would seem, bring our argument to a close. In principle the task of *Parmenides* has been accomplished. It has been shown, that on that theory of the nature of the world's unity which resulted logically from the position of the youthful Socrates, all assertion and all denial about reality are alike impossible, while on a rival theory both are intelligible. It would therefore be natural to conclude that the one theory had successfully established itself as against the other, and with this result the dialogue might have come to an end. In the *Parmenides* however as in the *Republic* Plato is not satisfied with the mere direct establishment of his thesis. It must be further confirmed by corroborative evidence and the production of negative instances. Thus we have still to consider in detail what will be the bearing of the two rival doctrines on the position of *τὰ ἅλλα*—the world of change and multiplicity—(Hypotheses 3-5) and what will follow from their denial (Hyp. 6-9).

IV.—THE PLACE OF THE CONCEPT IN LOGICAL DOCTRINE.

BY J. H. MUIRHEAD.

THERE is nothing in which recent logical treatises contrast more strikingly with the older text books than the complete subordination of the concept to the judgment and the almost total disappearance of the discussions that used to find a place under the head of the doctrine of the term. This change is the logical outcome of the attempt to assign an independent place to the concept as an element in judgment. As against the old view that thought begins with concepts and proceeds to judgment and reasoning, the criticism on which the change rests is unanswerable. We may, however, admit this without admitting that the last word has been said on the relation of judgment to concept. It is possible that though the ground on which the older logicians rested their claims for the prior and independent treatment of the concept is untenable, and though there is much that is preposterous in the way in which they developed the doctrine of the term, their order of treatment was yet the result of a true instinct as to the ultimate nature of the movement we call thought and knowledge. This paper offers a few considerations in support of this suggestion. Its conclusions could only be justified by the success which might attend the attempt to carry them out in complete system of logic. Short of this, its length will, I hope, admit of a clear statement of the view in question and a few suggestions as to the change it would involve in the current treatment of logical doctrine.

I.

To clear the ground I shall begin by recalling the present state of the controversy. The criticism of the traditional view may be said to have been successful all along the line. According to this view concepts are formed from groups of particulars by the

processes of abstraction and generalisation. Common elements are abstracted and constituted by their union into a general notion which is thenceforth taken as representative of the group as a whole and as predicable of any individual within it. Out of a combination of such concepts we have judgments; out of a combination of judgments, reasoning. Logic, therefore, is not only within its rights in treating the concept as a substantive element in thought; it is bound to treat at length of the various kinds of concept that might be united in a judgment at the risk of leaving the form and content of the judgment itself unexplained.

Of course it is easy to see that this will not do. Before we can "abstract" an element from any individual thing, we must already have *judged* the thing to possess it. And going a step further back, and considering what is meant by the "group" of things from which the concept is said to be abstracted, we see that it could only have been formed by looking at the individuals from some point of view, or as possessing some attribute, and that to group things in this sense is to make a judgment about them.

For the older logic with its neat system of discussion, beginning with the term, going on to the proposition, and ending with the syllogism, this attack on the independence of the concept was, of course, perplexing. Two courses seemed open to logicians who while conscious of the difficulty still desired to retain the old order: either (1) to accept this criticism as theoretically conclusive, but to treat it as practically irrelevant to the order and mode of discussion, or (2) to attempt to combat it on the ground of theory.

1. In a passage¹ which is interesting as showing more insight into the nature of the thought-process than his school is usually credited with, Thomson states the arguments that might be brought against the attempt to assign logical priority to the doctrine of the concept. "Why," he asks, "do we reason? To find whether some judgment which has suggested itself to our minds be true or not. Why do we seek to make this judgment? To add something to the clearness of the notion that is its subject. Copernicus reasoned to prove the globe revolved round the sun, and he established this judgment that when men thought of 'the globe' in future they might know it as the 'revolving globe.' All the reasonings in Aristotle's *Ethics* are to give a more adequate notion of happiness, of Plato's *Republic* to improve our notion of justice, of Bacon's *Organon* to afford a more accurate conception of method." After

¹ *Laws of Thought*, § 41.

these admissions one might have expected him to go a step further and agree with modern logicians that if the matter stands on this footing, and concepts are founded on judgments instead of judgments on concepts, the function of logic must begin and end with the analysis of judgment, and that to repeat or forecast this analysis under the head of the concept would be superfluous¹. This, however, would have involved a revolution in the whole treatment of logical doctrine for which the formal logicians of the time were not prepared, and Thomson falls back without more ado on the old order. It is artificial he admits, but in beginning with the concept, logic begins with the simplest element of reasoning, and is thus easier to follow.

In reply to this mode of meeting the theoretic difficulty, it is sufficient to point out that it is an odd way to achieve simplicity by trying to explain the nature of contrariety in the contrary and contradiction in the contradictory term, without any reference to the corresponding judgments in which alone they can appear. What again is to be said of a method of exposition which treats of division before the disjunctive, definition before the reciprocal judgment, and the whole elaborate scheme of the predicables and the predicaments before it has explained what predication itself implies?

2. The second way of meeting the above criticism was to enquire whether the theoretic argument in favour of the priority of the judgment to the concept was really unanswerable. This is the investigation with which Lotze opens his *Logic*. Lotze begins by admitting that ideas in their developed and accurately defined forms imply the previous activity of judgment:—"In order to frame complex and manifold concepts, and more especially in order to fix the limits within which it is worth while and justifiable to treat them as wholes and distinguish them from others, a great deal of preparatory intellectual work is necessary²." This, he says, is the truth contained in the proposal to reverse the usual order of treatment. But this proposal overlooks an important consideration. In order that this preparatory work may be possible, "it must have been preceded by the conformation of simpler concepts out of which its own subsidiary judgments are framed." How are we to conceive of this preliminary process? It is not we have seen judgment, but neither is it simple impression. A judgment is a construction. To make it we must have the materials ready to hand. On the other hand, it is not any

¹ See Bosanquet's *Logic*, vol. i. p. 39.

² *Logic*, i. 1, § 8.

materials that will do. It is easy to make a heap out of nothing but round stones, if it be indifferent how they lie; but if a structure of regular shape is to be built the stones must be already so formed that their surfaces will fit firmly together. This process of shaping impressions into ideas he defines as conception. It consists (1) in the "objectification" of our impressions. We must conceive of the beginnings of knowledge as of something we undergo. But this is only a moment in the process. We go on to separate the sensitive act from the sensible matter to which it refers. The matter or content is stamped with objectivity as a something which has its being and meaning in itself, and which continues to be what it is and to mean what it means, whether we are conscious of it or not. But this is not all. If it were, the interjection would represent the process of conception equally with the substantive or the adjective. Hence (2), in objectifying, we must be conceived of as giving a definite form to the reality as either subject, attribute, or action. A concept is not merely of reality, it is of reality in a particular form, and the form which it takes must be regarded by logic, at any rate, as given.

A philosopher is known by his metaphors, and anyone who has been taught to regard logic as the "Morphology of Knowledge," will have a shrewd suspicion of a theory which proposes to throw light on the relation between concept and judgment, by appealing to the analogy of bricks and mortar. What is the activity by which Lotze conceives of the mind as giving a definite form to reality, as either subject, attribute, or action, if it does not involve, in however rudimentary a form, processes of comparison and distinction? Or again, what is meant by objectivation if it does not mean the qualification of an objective world by an idea? And what are all these implied processes but rudimentary judgments? They may not be judgments in which subject, predicate, and copula are clearly traceable, but neither are judgments of the form "there never was a sea serpent," and it is one thing to say that judgment has a beginning in a germ cell in which subject and predicate are as yet undifferentiated; it is another to maintain that this beginning consists of a small store of ready-made concepts, from which the mind selects the material of its subsequent constructions. The whole matter lies in a nutshell. What is it that differentiates a concept from the mere image or impression? There is no doubt about this. Lotze has done more than any other logician in making it clear. It is the objective reference we call its meaning. The image is a mere floating content, the concept is an adjective or proprium of reality. But the characteristic which marks it out as a concept destroys

its claim to rank as an independent element of thought. For this reference by the mind of an idea to reality, or, if we prefer it, this appropriation by reality of a floating content is in the last resort what we mean by judgment.

The conclusion is inevitable. If we approach the question, as the older logicians did, from the side of terms and propositions, and inquire what is the relation of the concept as an explicit element of judgment to judgment itself, the only possible conclusion is that it represents "a habit of judging with reference to a certain identity¹." When I say, "What a lot of buttercups," I mean by buttercups a system of judgments which I am ready to make in reference to a particular object, judgments which I am prepared to make because I have already made them. If it be said this system can at any rate be isolated from the judgment, and is actually so isolated in the ordinary course of human thought, this, again, is pure delusion, arising from the fact that by aid of the term we can isolate an idea from its context and place it by itself as in the case of the name of a street or a heading in an index. In all such cases the term stands for an element either in a categorical sentence: "This is Oxford Street," or in one of as yet undetermined modality: "Oxford Street!" Well, what about it?

All this is unanswerable, but it does not exhaust the subject, and there is a question which the above criticism leaves untouched. Granted that the first movement of thought is judgment, from what does it move? What moves in it? The older view is quite untenable; but it had this merit, that it recognised judgment as a point of transition. Judgment it held starts from a datum or data in the concept, and moves forward to a result in a new concept. Logicians have recently been so occupied in demonstrating the crudity of the account which it gave of the terms between which the movement takes place that they have tended to overlook the truth of the intuition on which that doctrine is founded. They have rightly perceived that even the most elementary movements of thought imply *acceptance*. Just as the psychologist insists upon belief as a primitive element in our conscious states, so the logician maintains that our mental attitude toward reality must be regarded from the outset as categorical. But to say this is only to clear the way for the question whether, just as the object of belief must be regarded as logically prior to the belief itself, so prior to any "attitude" there is that to which the attitude is adopted. The contention of this paper is that

¹ Bosanquet, *loc. cit.* p. 41.

besides this categorical element which I admit is present in all experience, there is also another which may be called an *interrogative* and which represents in us the consciousness of an as yet indeterminate totality within which the judgment is made.

II.

Let me try to make this clear. Modern psychologists are generally agreed as against atomistic writers on the one hand and at least one interpretation of Kant on the other that consciousness begins, not in a disconnected manifold, but in an "undifferentiated Continuum." The evolution of mind is conceived of accordingly as a process similar to that which takes place in any other organism inasmuch as it exhibits the two-fold movement of differentiation and integration. How are we to interpret this starting point and this movement from the side of Knowledge, and of Logic, the science of the origin and growth of Knowledge? The "movement," we may say, offers no difficulty. For Logic this movement is the activity of judgment with its two-fold function of analysis and synthesis. But what of the starting-point? As judgment is a process of differentiation we must conceive of this process as taking place on a background of implicit unity. Before we can have thought in the concrete sense of the union of predicates, we must undoubtedly have explicit difference. This is the important truth which the criticism I have retailed has succeeded in bringing to light. But before there is difference or because there is difference there must be unity as the background or starting-point of judgment. To deny this and to seek for the starting-point in judgment itself, is like identifying an organism with the process by which its parts become differentiated instead of with the living embryo. It is true that this unanalysed unity is something less than concrete thought, inasmuch as its differences as well as its unity have not yet been made explicit. Yet just as the embryo while undoubtedly less than what it is on the point of developing into, yet in a sense is more in containing the promise of yet further changes, so this first implicit unity is more than the movements of concrete thought, in that it already contains implicitly all that it is the aim of these movements to make explicit and intelligible¹.

Here then is our result so far. It is a mistake to look for a *prius* of judgment in the explicit elements distinguishable

¹ For hints upon this way of stating the case I am indebted to an unpublished paper by Professor J. S. Mackenzie.

within it. But this cannot mean that judgments hang in a vacuum or are begotten by spontaneous generation out of nothing. Granted a judgment is a movement of analysis and synthesis, there must be something which is analysed and which reappears in the result in a new and, let us say, more determinate form. The question is: How are we to conceive of this something? From the side of Metaphysics this is easily enough answered. Mr Bradley would say that it is Reality. Reality, he says, is the subject of all judgment. I have no quarrel with this statement. I wish merely to consider what it implies for Logic. Reality cannot be (Mr Bradley cannot intend it to be) something other than a form of experience. All reality is experience. It is, however, an experience as yet undifferentiated in respect to the particular subject and predicate of the judgment which is on the point of being made. Relatively to that judgment it is a *prius*. It exists before and it survives the judgment. For judgment is in its nature finite. It is a definition of reality. Reality on the contrary is in its nature infinite. It refuses to be defined or contained in any predicate. We try to exhaust it by enclosing it in the predicate, or, if you please, in the subject and predicate. We hope we have succeeded. Judgment raises our hopes. It promises us success. It says *A is B*. But we know all the time that we have failed. In the very act of judging the reality has escaped us. We have done something. We have made part of it our own. But a part, by far the greater part, still wavers as a phantom before us.

This is recognised in the case of the reality which we are said to perceive. This we are told is concrete while our thoughts about it are abstract. It is somehow given as a whole. Our judgments on the other hand are partial. They are about it and about.

"Thought may take perception's place

But hardly coexists in any case

Being its mere presentiment—of the whole

By parts the simultaneous and the sole

By the successive and the many."

But the same is true of realities we cannot properly be said to perceive: the hyperbola, the Reformation, the human mind. Here, too, there is always a beyond which we have failed to grasp and which tempts us to try again.

"Man knows partly and conceives besides
Creeps ever on from fancies to the fact
And in this striving this converting air
Into a solid he may grasp and use
Finds progress."

What are we to call this element in our experience? Psychology does not give us much aid here. It is concerned with the origin and growth of our subjective states and considers its work to be done when it refers us to an "undifferentiated continuum" as their common matrix. But in logic we have nothing to do with the origin and growth of psychical states. We have to do with the mind's content in its objective nature as our "world"; and the question I have suggested is how are we to name that world at the stage at which it has not yet appeared as definitely determined by the contents of the judgment.

If we turn for an answer to the usages of popular language, they leave us in no doubt. We say we have a "notion" of a thing though we cannot describe it, that it is indescribable or (after we have heard it described) that we have a better notion of it than before. Again we say of scientific or other eccentric persons that they have "notions" of their own which we conceive of as obscure movements of their minds which they have not imparted to any one and have not even made clear to themselves. What popular language calls notion, I should propose, following Hegel, to call "concept." I am prepared of course to admit that this usage seems at first sight to differ from that with which English logicians have made us familiar. In a sense it seems even to contrast with it. According to the traditional use the concept is the group of predicates by which we have defined a thing. The concept of gold is hard, yellow, bright, untarnishable metal. According to the use here suggested, it is just the opposite: it is that element in our consciousness of the thing which is not yet defined by any predicates but remains over after we have done our best, as an unmanageable surd. The contrast may be made even more striking by a reference to the traditional doctrine of the proposition. Traditional logic analyses the proposition into subject, predicate and copula. It looks for the concept in the two former elements and passes over the copula as a mere connecting link between them. According to the above view it is required of the new logic that it shall reverse this treatment and look for the concept no longer in the determinate elements which the judgment exhibits but in the indeterminate "is" which it has sometimes¹ been paradoxically maintained constitutes the true subject or starting point of the judgment. Yet, in spite of this apparent contrast, there are advantages in the proposed terminology which will presently appear. Meantime two questions remain: Does the concept in the sense just defined

¹ Cp. Professor Jones's *Philosophy of Lotze*, p. 359.

really enter into logical doctrine at all? Granting that it does is there anything to be said about it that would not be better said under the heads of judgment and inference.

III.

1. The former of these questions must be answered by asking another: How are we to conceive of Logic? Is it the account of the mode in which true judgments are formed about a reality which is given independently of them? Or is it the account of the steps by which reality itself develops in the individual mind?

The first of these views is that which was made current by the material logicians of the last generation. It assumes that we have reality on the one side as something given us independently of our judgments about it and judgment and inference, as merely ways of arranging our ideas *about* it, on the other. According to this view the science of true judgments and the science of reality about which the judgments are made fall apart—the one is called logic the other metaphysics. The latter is that which has to do with the concept in the sense above described while logic is only concerned with the traditional concepts and with judgments and inferences which are formed out of them or again which go to form them. With this view we are not here concerned. Those who still hold it are not likely to admit that there is any suitability in describing the reality about which we form concepts as itself a concept.

But it is different with the present generation of English logicians. They no longer start with a separation between knowledge and reality. Reality is already present in the earliest form of experience. "Reality" says Mr Bosanquet¹ "is given for me *in* present sensuous perception and *in* the immediate feeling of my own sentient existence that goes with it." This cannot be too strongly emphasized. Reality is given from the first or not given at all. Your America is here or nowhere. The kingdom of truth like the kingdom of heaven is within you. Plato said its development was a process of remembering of what we knew before. This is a myth, but it has a meaning and its meaning is that knowledge is the progressive unfolding of an objective world which is already present in idea. How are we to conceive of this idea? It is here that I wish the new school of logicians to be more explicit. Mr

¹ *Logic*, vol. i. p. 77.

Bosanquet wishes us to conceive of it as judgment. Reality he says with Hegel is a judgment. But Hegel is also identified with the doctrine of the notion, and I have been trying to show that there is no gain but a loss to logic in dispensing with it. To do so leaves the judgment as a piece of lifeless mechanism on our hands. The judgment is a movement, but what moves in it? The mind certainly moves, but only *with* it. What moves in it is reality itself.

But if this be so, why, it may be asked, not say so? Why introduce confusion by baptising this reality as concept? For several reasons. First, because reality is experience, and by calling it concept we secure that truth in the rear. Secondly, the new usage is not so far removed from the old as might appear. The concept is reality regarded as the principle of movement and progress in the mind's experience. But reality is never present as a whole. It is always at some particular point that reality makes itself felt. Knowledge never grows as a whole. It grows at some particular point. This point is what we call the subject of thought—the topic of conversation, exposition, or what not. And this in turn is never present in its totality, but is developed in successive steps corresponding to separate heads and ultimately to the subjects of separate sentences. These, if we like to say so, “symbolise” the topic or area of reality with which we are dealing, and this, again, symbolises reality as a whole, but they do so, not as something different from it, but as the determinate forms it assumes in virtue of the constitution of the human mind as a finite organism.

Mr Stout has done good service in illustrating the relation between subject and predicate, as ordinarily understood, from the relation between the “subject” of conversation and the series of judgments through which it is advanced. The grammatical subject he conceives of as the rest of the foot on the ground in walking, the act of judgment as the forward movement executed from it. His whole account, as well as the doctrine of apperception with which it is connected, may be taken as giving us the psychology of this process. But while psychology is concerned with the fact and the way it comes about, it has nothing to do with the reason of it. It leaves this to logic, and it seems surprising that the logic of apperception is still to seek. The doctrine of the concept would fill this gap. In such a doctrine the dominant apperceptive group would appear, not merely as a *natura naturata* with an origin in time and again operative in directing the succession of mental states, but as a *natura naturans*—the point at which reality as an objective

system is operative in the individual mind. All that modern psychology has to say about the way in which these groups act in appropriating new material from the data of sense is of course welcome to the logician, but it leaves the question of what it is that makes the appropriation, and why it makes it, unanswered. This it would be the aim of the logician in the doctrine of the concept to set forth. He would show (to return to Mr Stout's metaphor) that what moves in the judgment is the subject itself. The argument we say "advances," the subject "moves on," and as it moves it "develops." Reality becomes richer and more coherent at the point indicated by the subject. If it be said that this is a strained and exaggerated account of what takes place in ordinary thinking—such movement being the exception and not the rule, since most people's notions are stereotyped—this is to forget that wherever there is mind at all there are interests, and that these interests represent the points at which reality is on the growing hand. Where, on the contrary, there are no interests the mind's world is on the wane, reality is on the point of deserting it, and leaving it to imbecility or death.

2. The second of the above questions has already been answered by implication in what has just been said. If the aim of logic be to give an account of the development of reality in the individual mind it is surely a fundamental part of it to give some account of the points from which it may start. This would not, of course, mean that we are to begin as the traditional logic exhorts us to do, with an enumeration of the different kinds of concepts on which popular language has accidentally stumbled. We have already seen how such an enumeration of the "elements of judgment" is an anachronism. It would mean that after making clear that what we intend by the "concept" is the form which reality as an intellectual possession assumes in the individual mind and thus distinguishing it from the ideal of goodness on the one hand, and beauty on the other (the subject-matter of ethics and æsthetics), we should go on to attempt to delineate the stages through which it passes in its progress towards complete transparency and coherence.

If the reader desires an illustration of what is meant by such a delineation he will find one in Sigwart's account of the different meanings that may be assigned to the term concept. In a passage towards the beginning of the *Logic* (Eng. Tr. Vol. I. p. 245) Sigwart distinguishes, (1) the psychological concept—the first rude image of reality at the stage at which by acquiring generality it has become qualified to take its place as an element of judgment, (2) the logical concept—the idea

with its meaning fixed and clearly determined, (3) the meta-physical concept the adequate copy of the essence of things. In the last sense we speak of the concept of life which would be the keystone of physiology, the concept of matter which would do the same for chemistry and physics, of mind for psychology, and, as Hegel would remind us, of freedom for history and ethics. After making these distinctions, Sigwart dismisses the concept in the first and the third sense from logic, and proposes to confine himself to the second. But this is a quite arbitrary concession to the older logic. The best that can be said for Sigwart is that in the sequel he does not confine himself with any strictness to the limits he here lays down. On the above interpretation of the meaning of the concept these three are not different senses in which concept may be taken, but show themselves at once as only different stages in the development of the concept in the individual mind. First it appears with all the irrelevancies of our particular experience. The universal is concealed by the particularity of the form under which it appears. Next we have the working definitions of science. The concept has been sufficiently purified of irrelevancies to serve for purposes of accurate thought, and as a starting point for scientific treatment. Lastly, it is passed through the retort of observation and analysis and developed into that completely coherent and transparent system which we call the scientific notion of the thing¹.

All this, however, would be matter of detail into which I am not here called upon to go. The object of this paper will have been sufficiently served if it has suggested as the finishing touch required by the splendid work of reconstruction on which English logicians have recently been engaged the explicit recognition: I. That logic rightly understood is the science of the forms which reality as an intellectual possession assumes as it develops in the individual mind. II. That this "reality as an intellectual possession" is what ordinary people understand by notion and, however we, as logicians, choose to denominate it, must be regarded as prior to judgment not as bricks and mortar are prior to the house, nor even as the seed is prior to the plant, but as the soul is prior to the body, or as the consciousness of will and personality are prior to the actions by which we try to express them.

¹ These three stages correspond on the whole to Hegel's abstract particular, abstract universal, and individual which again are roughly the singular, the general or abstract and the universal of modern logic.

IV.

Since writing the above I have read Mr L. T. Hobhouse's interesting chapter on "Simple Apprehension" at the beginning of his recently published work on the *Theory of Knowledge*. With Mr Hobhouse's conclusions I find myself in general in hearty sympathy and already owe so much to his book that I am loath to quarrel with any part of it. But it may serve to bring into prominence the point I have striven to make if I compare it with the view for which Mr Hobhouse there contends.

Against Green's view that the apprehended content is constituted by the synthetic activity of thought and that all knowledge is of relations Mr Hobhouse holds with James that before we can relate there must be something which can be related, that "judgments themselves would have no meaning if they did not refer to the data as apprehended," and accordingly that the primary act of knowledge is not a judgment but a simple apprehension.

The view here stated seems at first sight to bear a close resemblance to that for which I have contended—the only difference being that where I speak of "concept" Mr Hobhouse prefers to speak of "content of apprehension." In reality it differs from it in two important respects:—

1. Mr Hobhouse adopting the phraseology to which Mr Bradley has given some countenance speaks of the sensation or content of apprehension as the point at which we are "in closest contact with reality." The immediate effect of this is to force him to conceive with Mr Bradley of the act of apprehension as a reference of content to reality. But this is to expose himself at once to the argument which recent logic has directed against Lotze's attempt to distinguish judgment from concept. Mr Hobhouse seems quite conscious of the difficulty and proposes to meet it by calling apprehension an "assertion" (p. 19) and its content "fact." But this only throws us a step further back. What is an assertion wherein nothing is asserted? And if something is asserted wherein does an assertion differ from a judgment? And again what is fact if it is not the content of a judgment?

To incriminate Mr Hobhouse is not however to exculpate myself, and it still remains to show that this difficulty does not attach to the view that has been taken above of the logical prius of judgment. This we have seen is idea and it is also reality. But how it may be asked can it be idea unless it has identity and how can it have identity without having difference?

and these imply judgment. Again how can it have reality unless it be taken for it or referred to it? and so to take it or refer it is again judgment.

To the first point I reply that the concept for which I contend is a region of experience into which identity and difference (and therefore judgment) have not yet penetrated, and to the second that it is just this "reference of the idea" as a subjective content to reality as objective that I find so incomprehensible. The terms in which the doctrine is stated seem to me to be derived from the older view of the nature of judgment as predicating one concept of another. It suggests that we have first an idea as a species of unsigned cheque and that we then proceed to attach the signature of reality as of another and different kind of idea to it. This of course is mythology¹. It is better frankly to regard the concept as that which develops in the judgment, as the unity of the content and reality—a unity which, as we have already seen, is symbolized in the ordinary analysis of the proposition not by the subject nor even by the subject + the predicate but by the copula.

2. The second point of distinction may be stated in a word. The datum or starting point on Mr Hobhouse's view is the content which is attended to. He admits of course that there is a margin as well as a focus of attention. But this margin he treats, with the psychologist, as something *beside* the content and irrelevant to it. The point which is important for logic, conceived of as the science of the steps by which reality develops in the individual mind (and this, as I understand him, is the way in which Mr Hobhouse conceives of it) is thus obscured. Reality is thus after all conceived of as beginning for us in that most attenuated and impotent of all its forms—the mere isolated sensation, and we are left to look for the principle of the whole movement which Mr Hobhouse is about to describe among the abstractions of psychology—for the living among the dead. The view above taken insists on the contrary that the starting point for logic is not the mere sensation but the sensation upon the background of the concept of which it represents only the first stirrings in the individual mind.

¹ It is curious that Professor James should be one of the most ardent opponents of this view and yet should fail to see that in rejecting it he implicitly admits at least one part of the "intellectualist" contention that our primitive experiences are already "thoughts." Mr Hobhouse's polemic against Green possesses this great merit as compared with Professor James's that in naming the *terminus a quo* of thought "assertion" instead of "sensation" he acknowledges this truth.

I shall bring these differences to a point. Mr Hobhouse says "we maintain that apprehension is a distinct factor postulated as a condition by judgments of perception and that its content is a distinct part within the more complex whole which judgment asserts" (p. 28). I have replied first that this merely reopens a controversy which ought by this time to be taken as closed¹; and secondly that it gives no logical rationale of the movement we call thought. I should therefore propose to amend the above statement by maintaining that the starting point is not "a distinct part within the more complex whole which the judgment asserts" but an indeterminate complex within which judgment moves as the process whereby its contents are first resolved into relative simplicity and then reassimilated as parts or elements of a determinate whole.

¹ Mr Hobhouse himself in his chapters on *Ideas* (cc. vi. and vii.) seems so to take it.

V.—CONSCIOUSNESS AND BIOLOGICAL EVOLUTION. (II.)

BY HENRY RUTGERS MARSHALL.

Sec. 1. In the article which has preceded this I spoke briefly of the two fundamental influences which we discover in all of organized life; of the influence which tends to restrict variation within certain typical lines, and of the influence which would lead the organism to break free from the restrictions thus presented.

I there spoke of the very beginnings of the appearance of these two influences in hypothetical simple aggregates: but the same two influences can be traced through the rising grades of life even until we reach the *quasi* organic social aggregates: for it is true as Prof. Knight has lately said¹ that "there is no doubt that the two factors in the historic evolution of the human race have been the power of the individual in leading the masses, and the power of the masses in controlling the individual."

The reader will of course realize that these influences which appear so diverse, as we view complex organisms objectively, are in fact both but aspects of the basic tendency to the persistence of life: they appear in opposition, because of the fact, which will become more clear in the sequel, that the tendency to strive for persistence of life is fundamentally *elemental*, and only secondarily relates to more or less integrated aggregates of elements.

But it is with these aggregates of more or less complex organic form that biology has to deal, and I believe that I shall not be misunderstood if for the sake of brevity I often refer to these divergent tendencies as we actually note them, without reiterated reference to their basic unity.

I shall not attempt here to trace the two influences through different forms, but shall discuss certain questions relating to the grand divisions of human capacity which these influences are efficient to produce.

¹ *Mind*, N.S. Jan. 1896.

I.

Sec. 2. Let us study first the influence which is restrictive of variation. The reader will at once recall that I would identify the effects of this influence in its broadest lines with instinct: for what I call instincts are those organized trains of activities which are determined to the attainment of biological ends. These two qualities, organization and movement towards some biological end, determine the actions of the individual in certain typical lines; and this is true whether the actions involved are fixed, as in reflex actions; or are more or less varied; or even if they are recognizable only by a general trend through an inextricable maze of utterly unpredictable reactions.

The point that I wish to emphasize in the first place is this, that the great mass of the instincts with which we are familiar may be broadly divided into three great classes, determined by three diverse types of biological ends. We have

1. The instincts which tend to render persistent the life of the individual.

2. The instincts which tend to render persistent the species to which the individual belongs.

3. The instincts which tend to render persistent the social aggregates formed by individuals in the higher processes of development.

1. Sec. 3. In those simplest of living masses which we may suppose to grow, and to multiply by fission, we must assume the existence of certain co-ordinated actions which relate to the absorption of nutriment. As simple organisms arise these co-ordinated actions must be continually existent, and as organisms become more and more complex, these co-ordinated activities although becoming correspondingly complex, must still retain their distinctive character.

As organisms develop we find another group of co-ordinated instinct actions leading to general expansive activities occurring upon the approach of what is usually advantageous to the organism; and still another group leading to a general shrinking, a hypernormal quiescence, occurring upon the approach of what is usually disadvantageous to the organism. A little later as organisms become active in their environment, we find co-ordinated instinct actions leading the organism to flee from the disadvantageous, to approach the advantageous, or to attack the disadvantageous: we also find developed many complex self protective reactions.

All of these types of instinct action of ancient lineage I have

attempted to show elsewhere¹ are discoverable in the higher animals, and in ourselves the highest type of living beings.

If the hypothesis of parallelism, as I hold it, be true, then all these instinct actions, involving pulses of neural activity in us, must involve pulses of psychic activity also: in other words they must be accompanied by what I have called "instinct-feelings." But most of these "instinct feelings" will not appear in consciousness, either because the neural systems which are coincidently called into action are to a great extent disconnected from the brain system, or because the activities involved are so nearly fixed and definite that the psychic effects coincident with them will be unemphatic and will sink into that unanalysable complex which we call our empirical Ego.

But that these "instinct-feelings" do exist becomes clear when we consider that under certain conditions where we should expect them to appear in consciousness, they do so appear viz.: under conditions in which the whole organism is involved, or else under conditions in which the instinct actions although relatively fixed are called out only occasionally, and when called out must be emphatic if they are to be effective.

I have attempted to show elsewhere² that in such cases the "instinct feelings" gain a name and are called emotions: and that Joy, Sorrow, Dread, Relief are emotions of the type determined by the fact that the whole organism is involved; while Fear, Love, and Anger are emotions of the type determined by occasional and emphatic occurrence of the biologically valuable instinct actions.

But the special point that I wish to make clear here is that these instincts have individualistic import only, although of course they would never have been developed to the point reached in us had not the efficiency of the species become a part of nature's plan.

2. Sec. 4. Turning then to the instincts relating to the persistence of the species; it seems to me probable that they have been grafted upon these individualistic instincts, if we may so speak; and that the individualistic instincts have been specially developed in certain directions that happened to conduce to the persistence of the species.

It is true that rudimentary reproductive systems, and rudimentary sexual processes through which continuance of type is determined, are found very early in the development of animal life; still in these low organic types we note many

¹ See *Pain, Pleasure, and Aesthetics*.

² *Op. cit.*

forms of reproduction without sexual differences or relations; and many which are independent of conjugation between different individuals, parthenogenesis, hermaphroditism, and the like: and in certain types where sexual reproduction is possible, and sometimes where it is usual, we find it often replaced rhythmically or irregularly by non-sexual reproduction: in all such cases the individual is clearly self-dependent in relation to the propagation of its kind.

All this makes it appear probable that individual organic life, with inherent power of reproducing its own kind, long persisted before the slight advantage gained by sexual differentiation began to make the existence of different individuals of importance, and dependence of one individual upon another necessary, if the type were to persist. And during this long period the animal must have been self-dependent individually; in it must have arisen the germs of many instincts which related only to its own individual persistence. This is made clear when we note certain of the lowest types of organisms that can be examined under the microscope, which habitually reproduce their kind without conjugation of any sort, but which show nevertheless many differentiations of individualistic instincts.

When then sexual reproduction became important, the instincts relating to sex must have been formed out of, or in relation with, complex individualistic instincts already existing.

So far has this process been carried indeed that it is somewhat difficult to separate some of the individualistic instincts still existing in us, from the instincts relating to persistence of species with which they have become bound up: a notable instance of this is seen in the case of love; we can only become convinced that love is in its origin of individualistic import, by noting that we are able to be excited to love by persons with whom sexual desire cannot possibly be connected (*e.g.*, brothers and aged parents) and by non living objects (*e.g.*, knowledge) which have come to be of advantage to us.

I cannot stop to speak of those many complex instincts that relate less to sensual actions than they do to the protection of the young, to permanent mating, to the formation of the rudiments of family life. All of these instincts are later in appearance than those which relate to conjugation but nevertheless deal with the persistence of the species to which the individual belongs.

There is one point that I would specially emphasize here, for reasons to appear later; it is this; that in order to account for the formation of the instincts which relate to the persistence of

the species, we must assume that the instincts of purely individualistic import have become subordinated to these newly forming instincts of wider than individualistic significance: so that in the long run the individual would come to react under normal conditions to protect himself indeed as an individual, but only in such ways as would lead to the persistence of his species under these normal conditions.

The instinct feelings correspondent to the instinct actions spoken of in this section I shall not stop to treat further within the limits of this article.

3. Sec. 5. If we turn now to consider those instincts of a type which relate to the persistence of social groups I think we must grant also that these social instincts have been grafted upon the individualistic instincts, as thus subordinated to those which relate to the persistence of the species: in other words, we must agree that the individualistic instincts, as modified with relation to the persistence of species, have been specially developed in certain directions that happen to conduce to the persistence of social groups.

And here too the process has become so complex that it is difficult often to follow the threads used by Nature in the weaving. We recognize such instincts of social import however in the patriotic instincts, in the ethical instincts, in the benevolent instincts and in the art instincts, as I have elsewhere argued at some length in the work above referred to.

But here again the point that I would especially emphasize is this: that in order to account for the formation of the social instincts we must assume that the instincts of individualistic import, as subordinated to those instincts which relate to the persistence of species, must in their turn have become subordinated to the newly forming social instincts: subordinated so that in the long run the individual would, under normal conditions, come to react indeed to protect himself as an individual, in such ways as would also lead to the persistence of the species, but only in such manner as would lead to the stability of the social group to which he belongs.

Sec. 6. In what has preceded, I have studied instincts in three groups or classes; and the reader will agree with me, I think, that the instincts thus treated make up a very large proportion of those which we observe in our own lives and in the lives of animals.

But it would be incorrect to suggest that these great groups include all the instincts developed in the higher animals. The

so called "imitation instinct" may be mentioned as an example of an instinct which is not thus classifiable.

Possibly this instinct may be found to be merely the marked and complex development of a very fundamental mental and neural tendency, as Prof. J. Mark Baldwin appears to suggest: but it seems to me that the complex imitative tendencies which we recognize in our lives are of complex instinctive type, and are emphasized by Nature because she is able to use them for purposes of biological experiment in her vast laboratories: they do not appear to me to be identical in their essence with that "circular process" which Prof. Baldwin would have us call "imitation," and which he has shown to be determined, to a great extent at least in its beginnings, by self imitation.

I am free to confess however that I fail to note any large number of important instincts which cannot be included in one of the three great groups we have studied. I do recognize nevertheless a fourth class of which however few examples are prominent. This fourth class is made up of instincts which deal with the regulation of relations which it is advantageous to foster between the instincts already discussed.

A clear example of this type of regulative instinct is found in the "play instinct." Plays are occasioned by the diversion into certain relatively definite channels of surplus, so called "spontaneous," energies, which have resulted from hyper-nutrition, but which have been given no opportunity to express themselves in action. Nature has formed within us tendencies to divert these energies into channels that give practice in directions in which skill is, or will presently be, of value to us. It is a common-place that the plays of children make them ready for activities of after life: the girls' plays with dolls tell of future maternal activities: the boys' plays correspondingly tell of the world's battles he is to wage, often indeed reflecting the actual physical contests in which he would take part were he not held back from barbarism by the civilization in which he lives. In like manner the plays of mature men and women lead them to practice in directions which are likely to be advantageous to them in every day life.

I mention this fourth class here particularly because, as the reader will discover later, I shall endeavour to show that Nature has built up in us a most noble instinct of powerful force which cannot properly be placed in any of the three classes above described, but which I shall endeavour to show functions solely for the regulation of those relations existing between the instincts of these three classes which it is of the greatest advantage to emphasize.

Sec. 7. And now I wish to ask the reader to consider more in detail the matter of that subordination of one set of instincts to another set, of which I have above spoken. It is evidently important that this subordination of individualistic instincts to those relating to the persistence of the species, and of these two, in certain relations, to the social instincts:—it is important, I say, that this order of subordination should be conserved if the rise of social *quasi* organic aggregates is of biological importance. That this rise is of importance appears to be proven by the very existence of the social instincts: for it is exceedingly difficult to conceive how these instincts can have been formed, and once formed how they can have persisted, unless we suppose that the individual is indirectly better adapted to exist in his environment, and to perpetuate his kind, as a member of such a social group, than would have been the case had he not acted as a part of a social group by the subordination of his instincts in the order above described. The reader will find the point thus made to be of moment in the development of the argument in the next article of this series.

Of one more point I wish to remind the reader before turning from the study of the influences restrictive of organic variation. It must be apparent to him that the tendency to organic variation to be presently treated must on the whole be held in check, otherwise instincts could not be formed. In other words, the existence of instincts shows that typical actions have on the whole prevailed over variant actions in the development of the individuals of a race; that those individuals which subordinated their tendencies to vary, to those influences which led them to act in certain ways that have proved of value to their ancestors,—that those individuals have persisted and have left descendants who have proved able to hold their own in the contest for survival.

II.

Sec. 8. I shall now ask my reader to turn with me to consider the variant influence which we have noted to be as important in the evolution of organic life as the influence which tends to restrict variation.

In the first article of this series we considered certain questions of interest to both psychologists and biologists as they seemed to be more clearly defined in the light of the theory of neural and psychic parallelism.

In what follows I shall ask the reader to study with me, in relation to the same theory, a problem of especial interest to

the biologist, in the solution of which we may hope that psychology will some day offer some effective aid. I refer to the problem of the origin of those variations of organic forms which surround us and of which I have spoken so often in what has preceded this.

Sec. 9. I think all biologists will agree that if we postulate the existence in the dim past, of uniform undifferentiated living masses, there is no difficulty in conceiving of the appearance in them of variations, provided only they be acted upon by divergent forces. There is no more reason to doubt that variations would thus occur than there is to question the fact that inorganic elements will vary in reaction under like conditions of varying stimulation.

But if we find no serious difficulty in comprehending the origin of simple variation, we do find it no simple matter to divine the modes of occurrence of this variation in complex, differentiated, and yet integrated organic matter.

Now if biological actions of a certain type are parallel with what we know in consciousness, if mental effects are co-ordinate with physical effects in neural fields; if moreover biological variation be going on in our lives to-day; then that neural variation which is all important in higher life should be evidenced by psychic variation, and the mode of this variation might not impossibly be found reflected in some mode recognizable in our conscious life. It would seem possible then that an examination of psychological data might throw some light upon the problem of the nature and origin of the variations that perplex us. At all events it seems to me to be quite worth while for the biologist to turn to psychology and to enquire whether our science may not have a word to say to him on this subject.

Sec. 10. Let us turn our attention then to consciousness as we experience it in its most highly developed form, and look for its relations to variation. As soon as we do so we are struck by the fact that our mental life naturally divides itself, as by an inherent cleavage, if we may use the term, into the coincident of instinct and of reason: instinct determining the existence in consciousness of impulses of one form or another; reason determining, in large part at least, processes which appear to inhibit or guide these impulses.

We are then forcibly led to the thought that instinct, and the impulses which it determines, are related to demands which are bound up with our organic nature, which determine our type; while on the other hand reason, and ratiocinative pro-

cesses, appear to be as distinctly related to real or attempted divergence from typical forms of action.

It seems to me that here we have a distinct leading, and that if the nature of reasoning process in relation to impulse be studied in connection with the biological problem which we are here considering, there is a large probability that some conclusions may be reached which will not be valueless to the student of living forms. And this is probably true whether the suggestions made in what is to follow have or have not any worth in this regard.

Now if we examine for a moment our mental experience in connection with those most complex impulses which we are accustomed to call the "higher" ones, viz. the ethical impulses, as these impulses are related to our reasoning, we are naturally led to recall in the first place the fact that these ethical impulses are dependent upon the existence of the organized social life in which we individual men and women are elements. Oppositions to murder, to theft, to adultery; impulses to benevolence and sympathetic aid; all alike would be functionless if each one of us existed in isolation from the social fabric.

In the second place it seems equally clear that at least a very large proportion of the actions which lead to the suppression of, or to divergence in, these impulsive demands of social import, have themselves relation only to ourselves as individuals; and that it would be impossible to hold for a moment that these actions inhibitive of the social instincts would be in like manner functionless if we happened to be leading a life uninfluenced by the existence of the social fabric. Murder, theft, adultery, hatred, envy and malice, all arise as individualistic tendencies, and foster individual efficiency.

We are then led to the position that in the *quasi* organic social life, variation from the typical forms which are represented by the ethical impulses is determined, to a great extent at least, by action on our part as though for the moment we were individuals without close bonds to this social life. We individuals who are elements in the social aggregate tend to vary from our social type when we act as individuals, as elements, without reference to the whole aggregate with which we find ourselves bound up.

This looks as though the action of an element of an aggregate, as an isolated entity, without reference to its position in the aggregate, might be of importance in the consideration of variation in general, and without further examination of the subject from the point of view just taken I shall ask the reader to turn with me to an objective consideration of the subject.

Sec. 11. I wish now to indicate as briefly as may be the evidence that variation from typical forms in complex organic life is determined, to a great extent at least, by conditions which lead elementary parts to act for themselves and not in relation to the aggregates of which they are elements.

In the sixth section of the first article of this series we considered the probable effect upon a simple aggregate of simple living masses if one element in the aggregate were affected by a special stimulus from the environment; and we concluded that under such conditions the element affected would tend *primarily* to react upon the disturbing force as though it were an isolated element; and that *secondarily* only would this action be modified, or inhibited more or less fully, by the influence of the other elements of the aggregate.

Here then we have in this hypothetical simple aggregate under such conditions a mass of elements, a large part of which act in some definite manner, but one of which acts differently under a special stimulus; and if we happened to view the aggregation as a whole we should express this fact by saying that one part varied. And it is to be noted that this variation means simply the action of one element of the aggregate as though it were without connection with the other elements.

Sec. 12. If now we substitute the word cell for the word element, in the section that has preceded this, we have a description of action in the lowest forms of what we call organic life. If we agree that the connection between the cells of the aggregate has become intimate and the relations of the actions of these cells therefore important; then we see that each cell that is specially acted upon from its environment will tend *primarily* to react upon the disturbing force as though it were an elemental cell, and *secondarily* only as though it were part of the aggregate; and it follows that if the disturbance from the environment be forceful, then the action as an isolated element will become more emphatic than the action as a part of the aggregate; and furthermore that if we look at the organic aggregate as a whole then we should be led to say that this particular element had varied. It is further to be noted that this tendency to variation will be modified by, and will be determined in a secondary way by, the closeness of relation, the integration, between the cell parts.

Sec. 13. I think I may take it for granted that the reader will follow my thought if for the sake of brevity

I make a great leap and take up now the consideration of the higher organic forms which are made up of parts which are themselves intimately integrated aggregates of cell life. Here I think we shall see that there is much evidence that variation from typical forms can be identified to a great extent with action of a special part as though it were an individual entity out of relation with the larger organic aggregate of parts of which it is in reality but one element.

In all the animals of higher grade we find specially differentiated organs, as we call them, which are employed in different functionings.

Now I wish to ask the attention of my reader especially to one point in reference to this differential functioning, which is of importance to our general argument. It seems clear that in an organism made up of differently functioning cells, or of differently functioning parts formed of aggregations of cells, the differentiated parts must have come to act, where the conditions are *normal*, in a manner which is best suited to their own perfect working; this normal action, however, at the same time being suited to the maintenance, under these normal conditions, of the life of the organism to which the differentiated parts belong. Let me explain this symbolically.

Let us suppose that in organism *A* formed of differentiated parts *a*, *b*, *c*, the normal functioning of *a* or of *b* or of *c*, to their own best advantage, does not produce results favouring the persistence of the whole organism *A*; but that on the other hand in organism *B*, formed of differentiated parts *a'*, *b'*, *c'*, the normal functioning of *a'*, *b'*, and *c'*, does produce results favouring the persistence of the whole organism *B*; then evidently organism *A* will be likely to be destroyed, while organism *B* will be likely to persist, and we shall have its differentiated parts *a'*, *b'*, *c'*, functioning normally as they would to their own best advantage as though the organism did not exist, and yet at the same time by this very functioning bringing about certain actions in the organism as a whole, which actions will, under normal conditions, tend also to result in the persistence of this organism.

The main point that I would ask the reader to note here is this, that each differentiated part of an organism under *normal* conditions acts, as it were, to its own elemental advantage. And although evidently the parts have been so modified that the action they would properly make for their own individual advantage as parts, will be best adapted to arouse such activities of the organism as a whole as will lead to the advantage of the organism rather than the parts;

still it is clear that this action in reference to the whole organism is of a secondary nature, if we may so speak.

But now I would ask my reader to consider what will happen if the stimuli reaching these differentiated parts should happen to be *abnormal*. Under such circumstances these parts, knowing (if I may be allowed so to speak) only of their own functioning, only of the demands upon them to react to these unusual stimuli, will tend first to act as though they had no relation to the whole organism; and only secondarily will their action be modified by the influence of the other parts of the organism which are drawn into unusual functioning as the result of the abnormal action of the part first affected.

Under conditions of morbid stimulation the heart will often undertake extraordinary work: this action may be modified by the influences from the rest of the organism sufficiently to prevent disaster to the organism itself; but on the other hand the excessive activity may, and not infrequently does, result destructively to the system as a whole, before this modification through systemic influences can take place.

The intestines in like manner will function with excessive vigour to throw off colonies of poisonous microbes; and, if the restraining influences from the organism are not effective, their action may bring death to the whole organism through the general exhaustion caused by their efforts to function for the advantage of their own special part.

Of course with the increase in integration, in interdependence of the parts, the tendencies to act as parts without relation to the rest of the organism becomes less marked and the influences from the organism become more quickly effective; but nevertheless it seems clear that the influence from the organism must always be secondary, and if the stimulus to the special part be sufficiently forceful there will always be danger that the influences from the organism will not be able to hold the elemental action in check.

The actions which I have above illustrated are accommodative actions, and the capacity to make such accommodations to abnormal conditions as those described must result in variations from the normal type. And the reader will note that if I am correct these variations from type are also explicable as due to action of elemental parts of a complex organic aggregate as though they were independent of the organism, and without relation to the part they normally play in the functioning of the organism as a whole.

Sec. 14. And now again I shall ask the reader to make with me a great leap; to consider those actions which imply

variation of individuals from the forms of action which are typical in our social life.

The reader will now recall the study we made in the first article of this series in reference to the conception of a social organism and he will remember that I there laid especial stress upon the limitations of this conception. I argued that although we are compelled to acknowledge that social life may be found to be organic in its nature, still it is very clear that if this *quasi* organic social life exist it must be of a type corresponding in integration to very low forms of individual organisms. And surely this lack in the social organism of that close integration between the individual elements that is so distinctly marked between the elemental parts of the higher animals, and which tends to limit or prevent variation in them, should lead us to expect to find in the social organism a very distinct tendency to variation from typical action in the lives of ourselves, who though individuals are elements of this hypothetical wider organic whole.

Now it is clear as we have already seen that in the evolution of normal individual life, the primary action in response to stimuli from without upon the cells, must have been subordinated to secondary actions tending to produce effectiveness of the individual, in case the two were not thoroughly adjusted to the same end. In like manner in the evolution of normal social life the response to the complex stimuli from without must be subordinated to secondary actions tending to produce effectiveness of the social complex, where the two sets of actions are not thoroughly adjusted to the same end. But it is also clear that where conditions are not perfectly normal in our social environment then, if our suppositions be correct, we should expect to find forceful stimuli tending to produce action in individuals as though they were disconnected altogether from the social aggregate, and this tendency to variance from the normal life of the social type should be expected to be the greater because of the slightly integrated form of this social organism of which we individuals are the elements.

I think it will be apparent to the reader without argument that we do show this tendency to variance from the social type marked out by our ethical instincts, and this variation will be found in great measure I think to be identical with our action as individuals, as it would be if we were totally isolated and not affected by social demands. Under the sudden and overwhelming appearance of extreme danger, as in the case of earthquake, the man will cower or flee, in answer to his individualistic self-preservative instincts, who would be not at

all slow under ordinary circumstances to act in answer to his social instincts for the protection of his tribe. A man if placed at bay may kill his comrade in self-preservation although ordinarily he would avoid such an act by means of restraints all of which have social import.

In other words, here again we find that variation from typical forms is determined by action of the elements (ourselves in this case) of an organic aggregate (the social body) as though they were isolated and had little or no dependence upon or relation to the aggregate as a whole.

It would be impossible within the limits of an article like this to stop to explain complex cases of reasoned variation which may not seem at first glance to fall within the general formula here suggested. I believe however that it will appear clear upon consideration that the ends which reason bids us keep in view in our variation in this regard are ends which would separate us from the order of that social life which in the past ages has been instrumental in the building up of the social, the ethical, instincts; and that our variant action thus in these cases also appears as determined by especially forceful stimuli to react as though we were isolated elemental parts, and without dependence upon the forces which would guide us if we acted exclusively in accord with the demands of that *quasi* organic social body to which we belong.

We are led to this view especially because we seem to be able to identify reasoning processes with the highest elaboration of the emphasis of environmental stimuli upon the individual who reasons. And if the thesis above defended be correct, the variation described in complex organic forms is determined partly indeed by the degree of integration existing between the members of the aggregate, but partly by the forcefulness of the stimulus which reaches the element from its environment; this latter being the efficient factor.

Now as we find in our highly differentiated life that in great measure the process of reasoning is that which determines our revolt against instinct, and our variations from the ancestral type; it seems highly probable *a priori* that we shall find ratiocination to be the conscious side of the latest development of the elemental variant process, and in the ensuing section I shall endeavour to give an argument which seems to me to corroborate this view.

Sec. 15. As we well know, there exists in all organisms, to speak first of the physical aspect, a balance of activities fitted to answer to environmental conditions; and furthermore (*a*) it seems clear that if one element of a complex organism alters its activity

in consequence of influence from without itself, this one alteration of one element will tend to effect alteration of the relation between the actions of all the elements of the organic system to which the changing element belongs. Furthermore (β) if this one element's tendency to alteration of the relation of its activity to that of the organism *persists* with sufficient strength, there may result a variation of the action in that organism from its ancestral type.

Now evidently this course of action must have its correspondents in the mental life that is coincident with the action, and I think that this same process can be shown to be effective in the higher mental life as we experience it. In correspondence with the action described under (α) above, it seems clear to me that if, in any case, one psychic element in a mental complex becomes hypernormally effective it will tend to restrict the natural psychic development of the mental complex to which it is attached; this natural development which is thus restricted being determined by inheritance or individual adaptation. Furthermore in correspondence with (β) above, it seems clear that if this effectiveness becomes *persistent* it will tend to alter the typical psychic development, which will take on another form than that which it would naturally develop in consequence of inheritance or previous adaptation. In other words, this action will tend to overpower instinctive, or *quasi* instinctive, leadings in favor of elemental variation.

This whole process on the physical side is determined, as appears above, by the persistence of the activity of some one physical element, and this persistence in turn may be held to be determined to a great extent by the *reduplication of the stimulus to action in an organ that is prepared to react efficiently*.

In the region of the correspondent mental development this means the reduplication of the stimulus to the recurrence of the idea which therefore becomes persistent and effective.

But on the psychic side the latest elaboration of the process of becoming persistent is apparently the same thing as the process of ratiocination. It consists in this.

It being recognised that a leads to x and that b leads to a ; it results that whenever b occurs, x follows, as happens also when a occurs. Hence the process of identification of the issues of a and b in x tends to a duplication of the stimulus to the resultant x and hence tends to the *persistence of x* .

But this process of the identification of the issues of a and b in x is the basis of the syllogistic form to which all ratiocination is reducible; viz. if a then x ; if b then a ; if b then x .

This argument therefore leads us directly to the statement that *ratiocination is the psychic aspect of the latest elaboration of the variant principle within us.*

Sec. 16. The suggestion then which it seems to me biology may gain from this special psychological view in reference to the nature of variation is that organic variation is probably due, in large measure at least, to the tendency of elements in organic aggregates to react as though they were isolated entities, rather than integral parts of a complex systematized unity; acting thus whenever the force reaching them from their environment is so emphatic that it overcomes the forces inherent in the organism of which they are elements, or compels reaction before sufficient time has been allowed for these organic forces to become effective.

The difficulties which appear when we attempt to express our complex life of apparent indeterminateness in terms of so simple a formula must not be overlooked: but on the other hand it must be remembered how numberless must be the systems within systems of integration which must affect the individual elements of a social body, which is determined by the aggregation of individuals like ourselves, each one of whom is moulded by such varied influences inherited from the past.

I have attempted thus at some hazard to present in outline an hypothesis by which we may state a great mass at least of the phenomena of organic variation in living bodies entirely in terms of what is known of the interaction of forces in the world in which these living bodies exist. If it appear that this hypothesis is not available I nevertheless am convinced that some other explanation than that here presented will be found that will enable us to account for these objective biological phenomena in terms of objective physical efficiency; and will render needless the subterfuge of the assumption of an extra-physical efficiency, whether this be expressed in the doctrine of special creations, or in that doctrine of interference by consciousness which we discussed in our first article, and discarded.

And if this explanation of variation in terms of physical efficiency be found, we shall then be thrown back to the mystery of life itself: to the problems connected with the origin and nature of assimilation and growth, of action and reaction: to the investigation of the causes which bring into existence that reverberant continuum in physical objects and in mental experience; that reverberant continuum which on the one hand we recognize in *life* and on the other hand in *consciousness*.

VI.—CRITICAL NOTICES.

Studies in the Hegelian Dialectic. By JOHN M. E. McTAGGART, M.A., Fellow of Trinity College, Cambridge. 8vo. Cambridge. 1896. Pp. xvi, 259.

HITHERTO, with slight exceptions, the studies in Hegelian philosophy published in this country have been chiefly in the line of exposition. Criticism has in the main been incidental, and found in works dealing with Hegel's views on special questions whose discussion engaged the chief attention. Mr McTaggart's book marks a distinct advance. It is a thoughtful and acute attempt, conducted with marked good taste and ability, to determine what Hegel actually tried to effect and how far he succeeded, to clear away misconceptions as to his method and its relation to ordinary experience, to point out problems which Hegel suggests to reflection but cannot be said himself either to see or to give a solution to, to indicate some directions in which his system seems to need supplement or correction, and to examine the value of his philosophy in general, as well as of certain applications he made of it to the several departments of sociological history. Even for those who are unable to accept all its conclusions it is a stimulating and enlightening book, full of quiet reflectiveness and penetrating remark, and high-toned in its conception of the problem of philosophy.

The seven chapters conjoined under the title of *Studies in the Hegelian Dialectic*, if they do not exactly form an organic unity, offer at least a fairly continuous discussion of certain difficulties and corollaries which sooner or later present themselves to the student of Hegelianism. They fall, it may be said, into three or four tolerably distinct groups. In the first of these groups will go the three chapters (I.—III.) entitled 'The general nature,' 'Different interpretations,' and 'The validity,'—'of the dialectic.' Too much should not of course be expected under these somewhat comprehensive headings. The three chapters are written with, on the whole, a definite reference to views taken of Hegel's work by critics of the two generations since his death (e.g. by Trendelenburg, Herr v. Hartmann, and Prof. A. Seth), and offer a line of arguments narrowed (even if it be also pointed) by the occasionally accidental and personal qualities of the objections against which they are

directed. Such objections to a large extent are but symptomatic of the course of development in the individual soul which makes them, and to deal with them in a satisfactory way would require (as, obviously, one cannot hope to traverse the endless multitude of single censures) either to assure ourselves that they may safely be taken as typical of the dubieties raised by Hegelianism in the average human mind, or to seek to discover the fundamental views as to the problem of philosophy, as to the relations or no-relations of thought and reality, to discover (—to put it roughly) the *idola* of the den and the theatre, which underlie and give growth to the incessant efflorescence of cavils. Instead of this all but impossible method of dealing with objectors, Mr McTaggart takes the praiseworthy course of testing general demurrers by a patient confrontation of them with the evidence of the original texts, by distinguishing what is valid in their remarks from what is exaggerated for the sake of a thesis. Probably there are other and more penetrating criticisms of the Hegelian principle and method which it would have been desirable for him to tackle. Those of Trendelenburg were written too much in the shade of that re-action which made asceticism in speculation a positive, and perhaps the sole intellectual, virtue, and looked back on the speculative epoch as a time of philosophic paganism: Von Hartmann's essay on the 'dialectical method' is but a hasty spoil of the times when he was scouring the domains erewhile held by the three kings of thought who reigned before him, and trying to carve out for himself a new realm; and as for Prof. Seth, perhaps one may venture the hope that he will yet employ his eminent conciliatory talent to bridge over the gulf between the deep-rooted instincts of 'personal' life and the 'meditation of death' which seems to take their place when life is viewed 'under a certain species of eternity,' instead of intensifying the inevitable conflict between them by an appeal *ad populum*.

Chapters iv. and v.—which have been already published, 'nearly in their present form' in *Mind* (N. S. 1, 2, 8, 10)—form a second group of different aspect. Ch. iv., entitled 'The development of the Method,' taking the phenomena as presented first in Hegel's *Logic*, and then in the whole cycle of his philosophy, endeavours to show that in the progress of the Hegelian system the method undergoes a continuous alteration—like an instrument which acquires new capabilities by being used—: that in its beginning the element of negation and contradiction takes a more prominent position than it holds later, so that a period of struggle gives place finally to an easy evolution: that, in a way, the conclusion thus serves to show the incorrectness or 'subjectivity' of the process by which it was reached, or, in other words, that 'the dialectic does not give a fully adequate account of its own nature.' This, it must be owned, sounds at first hearing a very awkward doctrine for the 'dialectic': even though Mr McTaggart is careful to circumscribe its consequences. He further points out that Hegel might, if he had chosen, have adopted for the relations of Nature and Mind to pure Logic a scheme of

movement, analogous to that adopted in the transitions of Being and not-being, rather than that suggested by the relation of subjective and objective in the 'idea.' To the thesis of this chapter, that Hegel had not himself realised or seen what was implied in the gradual but decisive change from the inadequacy of the earlier categories to the increasing truth of the later, Mr McTaggart attaches much importance: 'it is only,' he remarks, 'by the aid of some such theory' (of a subjective element in the dialectic) 'that we can regard the Hegelian system as valid at all.'

Chapter v., 'The relation of the dialectic to time,' will be to many the most difficult passage in the book. The author is always acute and subtle in argumentation, and the discussion of the place of time in the system of ultimate reality is not a less fertile field of ambiguity now than it was in the days of Augustine. That the development in the dialectical system, both pure and applied, is *not* a development in time (*i.e.* the story of a growth), may be taken as settled: Hegel distinctly negatives the suggestion of so treating it; and indeed the confusion between a record of events and an exposition of meaning seems too gross to be deemed possible. But, it is argued, this technical treatment of it does not really abolish the difficulty. If philosophy is the comprehension of what is, if it aims at 'discovering the ultimate nature of all reality,' and does so by showing 'reality' ordinarily so-called to be an inadequate stage or partial truth of what in its fullest 'realisation' is an 'idea,' it seems not unnatural to say with Mr McTaggart that the purpose of philosophy is to 'establish the rationality of the universe,' and that all idealism (and Hegel's system is confessedly and professedly a complete or 'absolute' idealism) declares the world or universe to be 'fundamentally rational and righteous throughout.' Does not the veriest tyro know that Hegel asserted that whatever is real is rational, and whatever is rational is real? And if so, is not the actual fact, present anywhere, justified; and is not the 'must be' and 'ought to be' of the 'rationalist' invested with a title to existence? Yet 'if all reality is rational and righteous,' how are we to explain the notorious facts of unreason and wrong everywhere protruding? We are, it is obvious, confronted by the 'problem of the origin of evil.' According to Mr McTaggart the solution of the problem lies in accepting both the opposed propositions—that the universe is eternally rational, and that imperfection does exist—and hoping that in some as yet unknown and unsurmountable way a reconciliation may be found in a higher synthesis. Perhaps this is to throw too hard a task on the divine might of Higher Synthesis, and it may more profitably be asked whether the universe which is eternally rational and righteous is directly identifiable with the universe in which imperfection prevails. Or it may even more profitably be considered what is to be understood by 'eternally reasonable and righteous,' and how far these epithets are clear and unequivocal.

The two concluding chapters (vi. and vii.) treat of 'The final

result of the dialectic' and 'The application of the dialectic.' The 'final result' or the terminus of the dialectic is made by Hegel to be Philosophy, and one hardly sees how he could do otherwise in an encyclopædia, where philosophy is alpha and omega. But philosophy, urges Mr McTaggart, must be considered to be 'merely a state of knowledge.' Deduct the 'merely,' and the equation seems no great error: but what is the force of the 'merely'? It is the separation of knowledge, *first*, from the thing known, from the 'this' which we know, and then we have before us the thing-in-itself *named* knowledge, but to which neither gods nor men can attach any meaning or allow any reality; and, *second*, its separation from volition and from pleasure and pain,—that pure, disinterested knowledge, which human beings at least neither desire nor care for. Philosophy—so understood as a state of knowledge—cannot (it is further inferred) be regarded as the 'culminating point of reality,' or as the 'supreme activity of spirit'; it cannot even form a part in that supreme activity, for it is for ever vitiated by its antithesis to volition, and by its dependence upon an 'immediate' and a 'given' which is alien to it. Philosophy is not 'capable of acting as a synthesis between art and religion.' It, like them, is 'endeavouring,' (says the author) 'to find a harmony between the individual spirit and the rest of the universe.' But all three alike fall short of their aim. A new synthesis is required: 'some state of conscious spirit,' 'as direct as art, as certain and universal as philosophy,' in its faith, vision, and assurance that all things (ourselves included) are in harmony.

Of the essay on the application of the dialectic the drift is briefly to show that the dialectic itself is worth much more than its applications. 'The really valid part of Hegel's system is his Logic, and not his applications of it.' And if we farther ask what the *value* is of what is thus pronounced *valid*, an answer comes that 'the value of philosophy lies more in the domains of religion than in those of science or practice,' and that that value consists in the 'general determination of the nature of true reality' and in the certainty Logic gives that 'all reality is rational and righteous.' The application of the method to portions of the concrete historical field in religion, law, or art is invalidated, according to Mr McTaggart, by three considerations, *first*, that we have there no fixed beginning or end as in the Logic, no bare rudiment or 'complete realisation' of the 'absolute idea' where we can set our foot down; *second*, that all real life and history is more than logic, that the dialectic process is continually disturbed by external causes; and *third*, that a philosopher cannot possibly have the extensive and thorough knowledge of particulars, which the 'rationalisation of reality'—particularly if understood to be the 'reconciliation of it with our aspirations'—must demand as a pre-requisite. In consequence of the last deficiency it is suggested that a more promising field in which to apply logic will be found by taking abstract (moral) qualities and considering them as thesis, antithesis, or synthesis of other qualities (or *mixed modes*) of the same abstract stamp.

It is a commonplace that every age has its own difficulties and prejudices; and that each individual also has his own. The thoughts and interests of a period, a class, a single person, are set in a particular direction, and reflect or construct the world in a special way. An age which in the gross may be called idealistic is replaced by a period where realistic currents prevail. Faith fastens at different dates on widely diverse *foci*, or calls them at least by widely disparate names. New catchwords are abroad, new aims pursued, new gods worshipped. We ask the philosopher of other days questions which imply a standpoint he would find it difficult to assume. We want to see him from the outside, all round, as a single object, to be, as it may seem desirable, appropriated or rejected, according to its adaptability or inadaptability to our needs. What to him was at least an effort to reconstruct the world in the light of the Absolute, his readers will for practical purposes treat as only a petty contribution to a task (that of rationalising the mass of things) which each reader must *de novo* undertake for himself. But so to take stock of themselves—to put themselves in a nutshell—to adjust themselves for consumption by the public jaws—is what the great thinkers have not done, and could not do without self-derogation and self-destruction. Hegel, in the introductory chapters of the *Encyclopedie*, made an attempt: but it was not more successful than Wordsworth's exposition of the theory of the relations of Nature to Art and to Man which governed his poetry. He had not studied his own method from without: it was not—for him—detachable from its subject-matter, just as, conversely, the subject-matter was not detachable from it. Such a subject-matter, detached and made a body of dogma, would be but dry bones, suitable for a museum: such a method, reduced to an abstract trick of manipulation, would be but an instrument of logomachy.

Hegel has spoken more than once of the movement of thought in his argument as that of the matter or fact itself (*der Sache selbst*). He did not mean that the abstractly objective did or could move: that a selfless world could exert the life of change. The *fact itself* of which he speaks is the real world which is a unity of subjective and objective: it is a thought-permeated objectivity, and a subjectivity which has made itself at home in external body, and is no longer a floating will-o'-the-wisp of opinion. When Hegel's Logic begins its dogmatic march and enters on the *sicheren Gang der Wissenschaft*, the processes of nature and history—and especially that of mental history (and Mind is always and *par excellence* the Historical process—*das Historische*) have been already traversed. It is a fundamental hypothesis of his system that philosophy as self-contained knowledge is a circle—that it returns into itself—and that the beginning has its full force only for him who has gone already through what is called its end. The mind which logicises is a mind which, if it at its one end grows out of the organised concretion of space and materiality known as *homo sapiens*, attempts at its other to raise itself up to, and seek a higher firmanent in, that

spiritual structure of the Idea, which is the intangible and inapprehensible God, as he may be said to exist (if such being can be called existence) before the realm of nature and the realm of history (which is freedom and humanity) had emerged. If this be kept in mind,—and it is implied in Mr McTaggart's phrase that the process of Hegelian logic is a reconstruction, rather than construction,—it seems to cut away the ground from some loose talk about 'pure thought,' about the passage from Logic to Nature, and about the relation of philosophy to religion and art. A parallel case may set this in a clearer light. Just as Kant is sometimes estimated on the basis of an arbitrary restriction of his teaching to the more palpable features of the Criticism of Pure Reason, so Hegel has suffered by the subordination of his philosophies of Nature and Mind to the Logic. Nor is it sufficient to say that the Logic presupposes experience: that it is based upon the general nature or 'common characteristics of all experience,'—an experience which contains within it the 'nature of pure thought' to be elicited or ascertained by dialectic. 'Experience' is but a vague, much-worn word; and, like its neighbour 'reality,' it is employed perhaps a little too much as a conjuror's cry. The specific experience which philosophy always, according to Hegel, presupposes is an experience which has in it the characters of morality, art, and religion: and the still more specific experience which Hegelianism presupposes is the concentrated ideal life in the *Geisterreich* or World of Soul, Mind and Spirit, which is the abiding fruit gained from the historic movement of art and religion, and above all of philosophy. The bare shell of experience is and gives nothing: we must know what it is an experience of: for experience is not a reality, a self-subsistent, nor on the other hand is it so much 'pure thought' combined with so much 'data of sense' or 'matter of intuition.' Data of sense which are 'indispensable and yet negative,' which are 'not positive causes, but conditions' shrivel up into something very hard to talk about,—at least if they are to be talked about with profit.

Mr McTaggart has entitled these interesting and suggestive chapters essays in the Hegelian *dialectic*. He has spoken freely of *categories*. He has used as descriptive of the three steps of the logical movement the names *thesis*, *antithesis*, and *synthesis*. He may plead great example for so doing, and may urge the convenience of distinct terms. But something may be said on the other side. The three last names are the literary property of Fichte, and oust a multitude of very untranslatable Hegelian terms, such as *setzen* and *aufheben*, *an und für sich*, which, with their various shades and—as some may even think—ambiguities, constitute (may one say?) the charm and the stimulus of Hegelianism. The others, I think, give a mechanical regularity and discreteness to the process which, as Mr McTaggart well points out, is or would be continuous and organic. *Synthesis*, in particular, is misleading. No doubt in some modern uses it denotes a finer, ideal composition—an inner and intimate union of hearts and bodies; but it may be doubted whether

the word can fairly bear this meaning, and it is unadvisable so to treat it, in the face of Hegel's relegation of it to a lower level than that of a 'speculative' unity. 'Category,' again, is a name Hegel occasionally introduces: but it is only to facilitate the way of the historical student—in a similar way to Kant's so calling the *Stamm-begriffe* of intellect), and tends to mix up matters of diverse origin and purport. An elastic term like this has its disadvantages.

The case is somewhat different with Dialectic. In Hegel's primary use it designates a real, though frequently unnoted, phenomenon in life and knowledge, whereby the thing and concept, which temporarily or ordinarily seemed stable, definitive, and simple, turns out to be unstable, multiform and contradictory. Common practical life rests upon the assumption of temporarily ultimate points, absolute principles, and the like. It may, if probed, own them to be relative and abstract, but it deals with them as if they were absolute and total. And it is natural and good for it so to act, so long as it is immersed in the necessities of practical life which insensibly and gradually call up the complementary re-action. It is otherwise when it philosophises and rests in reflection on the single step. Then the context and the complementary is lost sight of; and a series of independent atoms of thought seem to be left as severally real. Theory in its first stage tends to give independent fixity to elements which life keeps flexible and organic. It is the business of a higher philosophy to find a more adequate expression of concrete experience than the ordinary efforts of reflection, divorced from life and action, are able to supply.

The business of dialectic, therefore, in its most legitimate sense, is to be the bridge which continually throws itself out to span the abyss between the land of so-called common sense, or first impression of ordinary reflection, and the land of reason or philosophy. It serves to demonstrate that the irrefragable data and solid ground of the theorising practician are not really so solid and impregnable as they seem. In practice no doubt the impermanence and the interdependence of things is again and again flashed upon even common observation. But in the world of theory which is for ever being built up by man, this truth of observation is forgotten, treated as an extrinsic and accidental phenomenon of things, instead of being recognised as what Plato has called a *πάθος ἀθάνατόν τε καὶ ἀγέρον*. 'To be a philosopher,' says Nietzsche in his drastic way 'is to be a mummy.' That at least is the common danger of the hasty theorizer. His ideal world leaves out the pathos and the action of life, and converts it into a statuesque collection or a mechanical conjunction of what are called ideas. This is where Hegel pressed his dialectic into service,—to shew that these ideas, even when hardened into the stability of things, have intrinsic and intestine life and motion. It is directed against the half-and-half measures of popular philosophy—of the philosophy which seeks a comfortable pillow of sound principle to sleep again, and which perhorresces nothing so much as seeing a 'bacchantic intoxication' convulsing the old stolidly

respectable ideas. The human mind in its unregenerate nature craves for a *ποῦ στῶ*, some solidly apprehended reality, some impregnable rock of experience, whence it may possibly seek to move other things, or where it may itself rest in tranquillity. Such a rest Hegel does not give:—or if he gives it, he gives it in the 'absolute idea,' where there is room in 'identity' and 'unity' for all transitions and correlations and developments through negation and contradiction; or he gives it in that absolute philosophy which includes all that is true in art and religion, and, in including, transcends and transmutes. But the absolute idea and the philosophy are both unlike the rest of sleep: and if they are to be called reality, then reality is that immeasurably far-off divine event to which all things in their finitude move, as from it in their finitude they proceed.

The function of the dialectic is therefore mainly introductory. It is none the less eternally necessary. Here and there, in every tongue and tone, some reflective spirit cries that he has found the solid bit of fact, reality, experience, out of which he will (—if you allow him time enough, and operations sufficiently multiple of memory, construction, generalisation, abstraction, and so on—) build you up the real round world you know. Only let him sit on his patch of the solid earth of present reality and primitive apprehension, —even though his datum, or given, be a very little one—, and he will be at ease. Hegel's whole energy is engaged in a contest against this belief in a *datum*. Make it as small as you like—call it pure being: and his argument tends to shew that you have got nothing. You say you do not want a pathological process of knowledge; a knowledge which grows through disturbances and tempests and morbid states: you would like 'pure health,' a normal and natural development. Hegel replies, you are crying for the moon: pregnancy and birth have their morbid features: all life is tainted with sickness: nay, all life is lived only through the victory over perturbing elements; and if the conquest be too thorough, and the struggle collapse through want of antithesis, the life itself is at an end. You would like positive, out-and-out positive, truth. But truth only lives by the side of error: it has its value and validity only in the error which it serves to refute, *i.e.* to explain: remove the error it lives upon, and the truth hangs flaccid and sere. In ordinary every-day experience this dialectic, as we have seen, goes on quietly enough. But it assumes more terrible proportions on the field of history, when ideas have, by causes not here to be discussed, grown into great concrete powers, and summed up in a single term the result of long processes. Then the phenomena are called disease. But there is no absolutely normal health—except in a visionary standard which only youthful impatience can expect to see realised in his own sturdy growth.

But Hegel has not used the term 'dialectic' as the supremely descriptive name of his method, or made it, as Mr McTaggart does, serve to cover the whole process of introducing order and connection into the mass of terms and forms of thought which are built into the

fabric of reality. Dialectic proper perhaps belongs most to the field of what Hegel at one time called *Objective Logic*. Objective Logic deals with a number of 'categories' or 'kinds of nameable things' which are taken as, in a way, part of the 'external' universe of fact, bits of reality. There are other categories—more commonly taken as 'forms of thought'—which fall within the scope of what Hegel once called *Subjective Logic*. These, such as final cause, and the formulae of judgment and conception, are treated as ideal vestments on reality: ways the human mind has of putting together or disjoining facts which are in the last resort independent of this dressing. Hegel's purpose may be said to be to break down the absoluteness and ultimateness of this distinction. It was not a new step, but only a systematic prosecution of a view which had come out decidedly in Kant, been deepened and extended by Fichte and Schelling, but had never been absent when philosophy went vigorously to work in its effort to unify the theory of life. That view had been that the so-called objective is essentially a subjective-objective: that not merely in the modal or properly logical terms, but also in such as put forward a claim to metaphysical, and even materialistic value, there is the pulse and life of subjectivity. With being, you suppose yourself to be on the ground of reality: you fancy that on given qualities you can build as on primitive rock. Causes are valid, you say, even if final causes are foibles: there is power in number, even if organism be an ill-compounded mode of synthesis. But the Hegelian logic claims to shew that if you are safe on being, it is only because it is one plank on the deck of the ship of thought, and that the single solid plank involves and postulates the concrete complexity of the whole structure. If you are in earnest with being, or trust the data of intuition (apprehension), you are committed to the absolute idea, *i.e.* to the concrete system of correlativity, transition, and development, which is the god of the abstract logical world: and in the long run you are committed to something larger still, to an organic natural realm, and to the omnipresence of intelligent and volitional life. It was this conviction which in partial and therefore paradoxical shapes led to the Berkeleyian theory of vision, to the analysis of the more abstruse ideas by Locke into simpler co-adjusted elements, and to Hume's much maligned interpretation of causality in things as connection between thoughts. It is the same principle which in Descartes appears in the personal form, *cogito, ergo sum*, and in his finding the safeguard of each single perception in their coherence with that supreme harmony of all true or 'perfect' reality which he called God. What merit Hegel has is perhaps only the persistent exploitation of this idea throughout the whole range of terms in which blank and bare reality emerges into name, inter-relation, and value. The real world in its essential fabric is a work of ideas: while the admittedly ideal terms are only the development to a further stage of what has come to be commonly taken as real and constitutive of reality.

But dialectic is after all only the negative side of his philosophy : and Hegel does not rest content with the demonstration of the power of negation, even in the highest. His own name for his method would be Speculative : and as Speculation he designates the positive and unificatory operation of intelligence which holds contradictions in unity and identity. But the 'unity' and 'identity' of contradictions does not, however crassness or perversity may assert, mean that it is all the same whether we say yes or no. It means rather that the meanest of God's creatures boasts at least two soul-sides, one to show to the world and the enemy, another to show to the self and the friend. It means that in the view of science or fuller knowledge, the simplicity which is the assumption of practical life is an illusion. The plain man and the practical judge expect a plain answer, yes or no, to a plain question. But the investigator and the criminologist have learned that plain questions and plain answers are only possible for those of hurried and blunted senses ; guilty and not-guilty are terms of a limited province and are conditioned in their application by a social convention. The plain answers are neither quite unreal nor quite untrue, be it added : hut they are not expressive of the whole truth or the whole reality. The problem which is strictly called speculative is to find a more adequate expression, to formulate the question in terms which will allow a more equitable answer. But it must not be supposed that the speculative simply undoes the effect of the dialectical act : or if we say that it reconciles, reconciliation does not consist in glossing over or ignoring the opposition. We may declare that the disruption is overcome, or cancelled, or suppressed, or transcended : but we shall misinterpret these terms if we think that thereby that which once was has been made as if it were not. The 'new life which rises upon the ruins of the old' is a phrase which, as is the way of metaphors, makes us forget that the new life owes its structural grace and wealth to the fragments and jarring elements which it reconstructed. Mr McTaggart remarks that 'if we find contradictions in our notion of a thing, we must give up its reality.' This seems an unnecessarily hard saying. No doubt contradiction is a symptom of incompleteness and therefore of comparative unreality or defective 'truth.' It is a sign that you are not on the absolutely solid ground. But the ground may be fairly real ground for all that. A pure unreality would hardly be worth the trouble of contradiction. It is only the 'concrete notion,' says the author, which is 'found in the world of reality,' and he tells us that according to Hegel 'thought can only *exist* in its complete and concrete form' as *absolute idea*. Surely there is exaggeration and misconception present or suggested here. The world of reality in which the concrete idea is found existent is not the world known as real to ordinary mortals : for them its light is not visible on sea or land : it is a world which for him who has eyes only for the actual (*das Wirkliche*) is a veiled world. The full and concrete notion—the 'absolute idea'—surely only *exists* (if the word is even there appropriate) in the

totality of nature and of mind, in the universe natural and spiritual. But the absolute truth ('truth' and not 'reality' is the Hegelian term of supreme sweep) does not annihilate partial truths, and seat itself in their place. Apart from their partial reality or truth, it itself were the emptiest reality and the poorest truth, just because the most pretentious. The Absolute must not merely have room for, but must contain, all the Relatives: the concrete, contain all the abstracts: the harmonious unity, all the contradictories.

Mr McTaggart remarks that in the Logic we have fixed points at the two termini: Being at the commencement and Absolute idea at the close. He speaks, it often seems, as if they were two points as realistically defined and located as the two ends of a road. But this may be misleading if we forget that the road leads across the infinite and eternal. The start with being is equivalent, he thinks, to the postulate that 'experience really exists,' or that 'something is': the dialectic '*assumes the validity of the idea of being.*' What precisely is meant by 'validity,' I hardly feel sure: but in any case I do not think the philosophy which characteristically asserts that 'Being and Nothing is the same thing' can have a very high estimate of the idea of being and its validity. It would be truer to say that the dialectic *demonstrates the invalidity* of the idea of being (—that impregnable stronghold of those who fear the eddying tides of thought) until it has been supplemented by factors which are decidedly idealistic, subjective, thought-born. And 'Is' which is no more than a bare 'Is,' being in its blank purity, far from serving as a solid standpoint, is a tight-rope from which you are incessantly rolling off into nought. It is the beginning of the dialectic, not because it is warranted by the common nature of experience, — (the common nature of experience, if it can warrant anything, can warrant a great deal more than the bare pin-point of being), but because as mere or pure being it is the pole of truth in closest contact with nonentity, and at an inappreciable distance from it.

But if *pure Being* is the minimum of reality, what shall be said of the Absolute Idea? One may have the highest respect for the serried array of the dialectic, and feel unable to detect a serious flaw in the links of its chain; one may be amazed at the incompetence which allows some of its critics first to mistranslate and then to misconceive its argument; and yet one may not be clear that here is the absolutely fire-proof structure of thought, embracing all details, and complete for all time to come. Even a disciple may regard his master as human, and be content if he finds in him a light to lighten the past and to convert its chaotic voices into harmony or at least coherent speech, though he fails to prophesy unambiguously of the after times. As Hegel approaches the terminus, — the absolute idea (in Logic) and philosophy (in Mind), — he grows terse, and enigmatic. And why? One may say with Mr McTaggart that the 'Idea' is 'the idea of the human mind, acting theoretically or (and?) practically.' But this is but a piece of verbal information, till we *know* the human mind — know it, as Plato says, not in its crushed and degraded or

'degenerate' form on these shores of time, but in its pristine or perfect (eternal) nature as revealed in philosophy. And when that knowledge comes, shall we be anxious to retain the epithet 'human' as distinct from 'superhuman' and 'divine'? The 'absolute idea' can have little said of it, because it represents a postulated maximum,—just as the other terminus (being) represented a minimum,—of truth. Once we get beyond 'Object' in the Logical order and enter on 'Idea' we cross the Rubicon which separates the philosophic movement, as it was directed by Kant and his successors, from all the past. Up to that point Hegel had been reproducing what may, not irreverently, be called ancient history. In the rest of the *Logic* he is engaged on the modern field—a much more complex and concrete field. The relation between life and intelligence, between intellect and will, the problems of Schelling and Schopenhauer, the questions of evolution theory, emerge and come to the front. But even if 'organism' and 'vitality' were clear and assured conceptions, (and they are far from being so, they are rather battle-grounds of the advanced sciences), it is difficult to surmise how we are to go beyond them, and where we shall find ourselves if we do. We may say with Mr McTaggart that 'the universe is a super-organic unity.' But just as 'organic' gets most of its meaning by its antithesis to 'mechanical,' so super-organic is only a *plus ultra* sort of word, tending to indicate that 'organism' is not the mountain summit, but only a subordinate height of truth. 'Absolute idea' therefore can only be regarded as a name for the problem of philosophy, not as a solution: it emphasises the need of a synthesis. The very title itself (with its epithet *absolute*) suggests this: and Hegel's (like Kant's) use of 'knowledge' as a genus embracing the two species of theoretical and practical reason hints the same approach to 'undiscovered territory.' When the idea is absolute, it ceases to be only idea.

I cannot agree with Mr McTaggart therefore when he speaks of the highest category as 'without contradictions.' A nursery rhyme tells of the tumultuous and interesting scenes of life and death that were transacted in relation to the House that Jack built. This House so built is in its way a supreme category: but I think it would be a rather lame affair if all the contradiction and negation of which it was the centre were removed. The pith of the story would be gone. So when we are reminded that in the advance of thought and knowledge 'the presence of negation is a mere accident, though an inseparable one, and that its importance continuously decreases,' one may in a way admit that the later chapters have less of it, and yet seek the causes in other quarters. These causes are partly that this part of the *Logic* had been treated in the 'Phenomenology of Mind' and comes up again in the discussion of organic and mental phenomena: partly that the battles on this field were largely yet to fight, and that not even a Hegel can anticipate the debates of the future in their detail.

It is Mr McTaggart's conviction that 'reality is not in its truest nature a process, but a stable and timeless state.' I pass over the

antithesis of a process and a timeless state, and its implications: they are perhaps scarcely in accordance with the statements of chapter v. I must note that Hegel speaks not of reality—which to him is a very subordinate category—but of the Absolute, when he describes it (if and when he does describe it) as a process. But I think it is impossible to accept the description given by Mr McTaggart as true to Hegelianism. The absolute—the Hegelian God (if we for a moment adopt language of accommodation which will not improbably mislead)—is at least Life, at least Ego: and if these are not process, self-surrendering, self-renewing process, it is difficult to see where we are to look for examples of process. To speak of Him or It as the ‘supreme being’ or ‘ultimate reality,’ as the ‘reality which underlies all finite things’ is to use expressions, capable perhaps of profitable interpretation, but which certainly lead, by their obvious suggestions, towards the cave of Spinoza substance, rather than to Hegelian Subjectivity,—which is Personality, or rather Tri-personality. And there is in Mr McTaggart’s language if not in his thought, a recurrent proclivity in this direction. It shows itself in the pre-supposition of an irreducible minimum of being as datum, an undeduced and given This; a reality which lies behind and which ‘the inadequacy of our finite thought’ never permits us to express completely; a reality ‘supplied by sense,’—sense without which ‘we can perceive nothing of the nature of thought.’ It shows itself in the dictum that it is the office of thought to mediate, and *only* to mediate: to ‘relate’ alien elements, given and apprehended somethings. When it is added that ‘thought actually exists, or it could not mediate,’ we are face to face with the old mythology of ‘efficient’ causes, powers which mediate like persons, and are entangled in the inextricable confusion between thought, the thinker, and his thoughts. As against it, here is only space to say that a thought, which *only* mediates, must presuppose and postulate another (if it be another) thought which calls for mediation and submits to it: a thought which, to use language we have already demurred to, is synthesis, antithesis, and thesis,—which

Creates, creator and receiver both.

Thought mediates: but to do so, it has to be more than a mediator, and must have in it the natures of the two extremes which it reconciles, otherwise its would-be mediation is waste and nullity, or accident. The only ground for holding otherwise would seem to lie in a confusion of terms. Say that an unrelated being is as good as nothing, and you are immediately supposed to have been refuted, if it is pointed out that by your own admissions the being must *be* before it is *related*. The refuter does not take ‘unrelated’ in all its bitter truth, its absoluteness and utterness: he still leaves it in its comparative sense, indicating the absence of those relations without which the being may still exist and perform its function.

There is however another feature in Mr McTaggart’s conception of the dialectic process which has to be noted in this connection.

We have seen already how he supposes negation to be banished from the bosom of ultimate reality and contradiction to be removed from supreme truth. He prefers, it is evident, the faith and the historical event of religion to the triplicity of syllogism into which philosophy dissolves the tale. If it be the declaration of religion, as he says, that 'all things are dependent on a reality' in which our ideals find their embodiment, if religion, as Hegel suggests, keeps in the view of suffering humanity the prospect of a glittering rest which lights up the scene of present toil, philosophy certainly endeavours to 'secularise,' i.e. to reduce to an immanent law of life what revelation presents as an event and a drama. But does philosophy supervene as a new stage, utterly differing from what has gone before? Is it, as we have heard it called, a state of knowledge only? To say so of Hegel's conception of philosophy, is,—one need not put it more, and one dare not put it less, bluntly—seriously to misconceive Hegelianism. When Hegel says (*Ency.* § 554) that 'religion is the general title of the supreme sphere' of intelligence, he only expresses his prevailing tendency to accentuate that religious tone and aspect of the higher mind which he accused even Kant, and still more his predecessors, of unduly neglecting in their systems. Philosophy no doubt is knowledge; but even distinguished critics have failed to show that it is *only* knowledge. It is the knowledge of religion: the *credo* as *intelligo*. Philosophy (to Hegel) is that stage of truth—the highest, if evanescent, vision of reality—which is called religion—turned, or attempted to be turned into the grip of a pervading principle of immanent life and conscious action, not set in antagonism and relief to the present actuality, but read more and more into it, and in its turn steadied and interpreted by it.

I do not think the dialectic intended to teach us that 'matter must be reduced to spirit,' unless that means that in vulgar matter (so to call it) there are promises and potencies which call for revelation or manifestation. It is not the case, I submit, that, in Hegel's view, 'explanation by a higher category relieves us from the necessity of finding a consistent explanation by a lower one.' Hegel had read his Anaxagoras and his Leibniz to better advantage than that, and knew that the supreme *Noûs* never works without the instrumentality of machinery, and that final causes never supersede, but only complete, the laws of mechanical causation. The higher categories are not thus ungrateful. If theirs is the glorious prerogative of crowning the edifice, it is a prerogative which only the patient and laborious co-operation of many minor craftsmen made possible. No doubt we all feel sympathy with the critic who complains that the three volumes of Hegel's *Logic*, with their recurrent demonstration of the inadequacy of concepts whose practical reality and use we all accept, are a weary pull up barren steep. But it is—according to Hegel—only on the partial truth of these materials of which dialectic proves the partial inefficiency that the higher and distant stages of the pyramid of knowledge can be reached. And each later category has to keep—transmuted and

adjusted—the earlier, not leaving them behind. It is therefore questionable policy to declare that ‘philosophy can tell us *a priori* that nature and spirit do exist.’ When it so speaks, philosophy perhaps reveals no more profound secret than M. Jourdain heard when he learnt he had been talking prose all his life. Phrases, like ‘*a priori*,’ and ‘deduction,’ are out of place in this phase of method, and serve only as stumbling-blocks. If philosophy can predict nature and spirit, it is because nature and spirit have produced or grown into philosophy.

Lastly, a word on some phrases by which the purpose of philosophy is here described. It ‘aims at discovering the ultimate nature of all reality’: and its final conclusion, we are informed, is, at least for Hegel, that ‘all reality consists of spirits which are individuals’ or of self-conscious beings existing only in their connection with one another,—a connection which is closer than an organism. Such is the ontology; and it has beside it a theology which declares God to be ‘the reality which underlies all finite beings.’ It would have been desirable perhaps to give more definite justification from Hegel for the assertion that he had arrived at the former conclusion, and to supply some indication as to the relation between the reality which *underlies* appearance and finitude, and the reality which *consists of* individual self-conscious beings. But when it is stated that, according to Hegel, philosophy is the ‘culminating point of reality,’ we fall into an almost grotesque bundle of equations, to correlate which will require an interpretation of God, philosophy, and reality involving a portentous effort of reconstructive thought. ‘Reality’ at least will not help us much in these latitudes, when it has become as empty a term as *thing* or *being*. But I do not linger long on these ontological dogmas: for—as Kant long ago remarked in his ‘Dreams’—it is not easy to ‘say how much you commit yourself to when you cross the boundary into Spirit-land.’

Philosophy however has its less metaphysical side. It ‘establishes the rationality of the universe’: and Hegel himself is said to show that ‘the universe is fully rational,’ ‘altogether rational and righteous.’ A German poet, Novalis, I think, is reported to have said that though philosophy can bake us no bread, she can give us God, freedom, and immortality. Not on one side only, but on both, this aphorism smacks of the enthusiasm and pseudo-idealism of the Romantic epoch. Directly philosophy can do the second-as little as the first: in her place in the organism of intellect she can help much both towards better bread, and a worthier life in the light of these three ideas. But let us not be in a hurry to suppose that a discovery of the harmony of the universe, its rationality and righteousness, will reconcile it with our aspirations or with our ethical needs, at least unless we first make our aspirations and our ethical needs both rational and righteous. Our aspirations are no doubt legitimate in their way, and our ethical needs are possibly even ‘daughters of the voice of God’; and so are in another way the harmonies of art and the consolations of religion. But the righteousness of the true

and rational world—of the kingdom which is, in a practical sense, to come, if it be also the kingdom which is within us—exceeds the righteousness of the Scribes and Pharisees. And we are all perhaps in our lower moments to be found in the camp of the Scribes and Pharisees. We are proud of our justice and our benevolence. But *Fiat justitia, ruat cælum* is but a relatively-worthy flaunt cast at weak-kneed pity. The righteousness and rationality of the world intelligible may not entirely square with our notions borrowed from our earthly jurisprudence and our practical aims. If philosophy therefore seeks to rationalise the world, it does so in continuation of those efforts which in all ages have been made in the direction of realising the unity and coherence of all being, in carrying ever further the process of discovering and constituting the truth of things, the harmony of mind and nature, the synthesis of all the aspects and appearances of experience. Of ultimate and absolute reality it will say positively and dogmatically but little, though it may hint much of what we have to do in temporal and relative service to further the coming of the kingdom of truth.

W. WALLACE.

Histoire de la Philosophie Atomistique. Par LÉOPOLD MABILLEAU.
Paris: Félix Alcan, 1895. Pp. vii, 558.

It would be ungracious in the extreme not to recognize with approval the diligence and wide range of information testified to by Mr Mabileau's work; at the same time, it would be futile to overlook the fact that the book, even in its best parts, is little more than a clear and pains-taking compilation from well-known authorities, and that where the author departs, as he does from time to time, from his general rule of dependence on predecessors, it is commonly for the worse. Hence it is almost unavoidable that a reviewer, the nature of whose task compels him to dwell rather on those points in which Mr Mabileau errs by diverging from Zeller or Lange than on those in which he rightly agrees with them, should appear to be doing less than justice to a work which, with all its mistakes, contains a great deal more truth than error. To guard myself in advance against the charge of undue censoriousness, I should like therefore to say something at once about the general merits of the book. It may be freely conceded that Mr Mabileau's exposition is, as a rule, lucid and straightforward; if he is occasionally obscure, the fault seems to be due more to a certain incapacity for profound philosophic thought than to difficulty of expression. I will go further; Mr Mabileau's most serious mistakes are, after all, in the main, mistakes in detail; if we put on one side certain somewhat baseless and fantastic speculations about the influence of Indian systems on Greek, and Arab systems

on modern thought, such errors as remain do not, perhaps, vitally affect the value of the work as a general account of the growth and development of Atomistic conceptions. That Mr Mabileau should have gravely misrepresented this and that philosophic system on points of detail may render his work useless for the special student of a particular period of ancient or modern speculation, but scarcely deprives it of all its value for a reader who is more concerned with the growth of certain general leading ideas than with the detailed interpretation of Heracleitus or of Locke. Defects which would be fatal to a special monograph on any one of the numerous philosophies which Mr Mabileau passes in review may easily become of only secondary importance in what is practically a history of physical speculation "from the beginning until now." And it might further be urged in the author's defence that he has at least the candour to furnish the materials for his own refutation. If he has frequently committed himself to over-hasty and one-sided generalisations, he has, in the majority of such cases, generalised with equal confidence in the opposite sense somewhere in the course of the next ten or twenty pages. Mr Mabileau's book falls most naturally into two sections, each with its prologue and epilogue. We have, first, the history of Atomism among the Greeks, prefaced by a short account of the Atomist philosophers of India, and followed by some general reflections on the distinguishing characteristics of the ancient forms of the doctrine, and, secondly, a history of Atomistic metaphysics from Gassendi to the present day, with an introductory disquisition on the traces of Atomistic ideas among the Mohammedan theologians of Bagdad and the Alchemists of both East and West, and an epilogue dealing with the modifications and developments given to the theory of Atoms by modern experimental science. Such criticisms as I feel called upon to make upon Mr Mabileau's execution of this ambitious design will deal mainly with the first of these two sections, and that for more reasons than one. In the first place, it is only ancient Atomism which we can study and analyse as a complete and finished whole; it is impossible to criticise with anything like finality a body of views which are still in course of gradual transformation and evolution. While, secondly, the valuation of modern Atomic theories, from the nature of the case, is rather the task of the chemical or physical expert than of the student of general philosophy.

Into the examination of Hindu systems of thought with which Mr Mabileau opens his work I am not qualified to follow him. I would point out however that, even on his own shewing, the evidence is all in favour of the dependence of India on Greece, rather than *vice versa*. In the utter uncertainty as to dates which seems to beset all our knowledge of Sanskrit literature it is impossible to appeal to external evidence to settle the question either way; the appeal (p. 2) to the authority of Iamblichus for the existence of Mochus, a Phœnician Atomist of the era of the Trojan war, is quite worthless and is probably not more than half serious,

in spite of the attempt of the author (p. 11) to bring the Neo-Pythagorean tradition on the point into line with his own theories. The more detailed arguments of Bk. II. ch. I. ("Rapports entre l'Atomisme Hindou et l'Atomisme Grec") are scarcely more cogent, and will certainly not be felt to require refutation by anyone who has read the pages devoted to the subject in Zeller. I will only say here that Mr Mabillean's facts are not always stated with the accuracy we have a right to expect (*e.g.* p. 57 *vers le même moment*, Anaxagore et Démocrite inventent les homœoméries et les atomes), and that he has supplied in the following chapters the most effectual answer to his own arguments by receding in detail from all the positions taken up in this introductory summary. It may also be worth while just to remark in passing on the suspicious resemblance of the leading categories of the system of Kanada, as presented by Mr Mabillean, with some of the most familiar technicalities of Aristotelianism. (Cf. pp. 15, 16 Selon Kanada, les objets qu'on peut nommer...peuvent rentrer dans six classes; *substance, qualité, action, commun, propre et agrégation ou relation intime*, qui ont quelque analogie (!) avec les catégories d'Aristote et de Kant.) It is barely conceivable that distinctions of this kind, whose genesis under the pressure of Greek speculation is matter of ascertained history, should have arisen, in such profusion, centuries earlier in an entirely different milieu. History hardly repeats itself with such pathetic fidelity.

When we pass from these unstable hypotheses to the actual history of Greek thought, we find ourselves on firmer ground, and can judge of Mr Mabillean's work with less hesitation. Of his general merits I have already spoken, and what I have said of the work as a whole is, in the main, applicable to the account of Greek philosophy which extends from p. 60 to p. 299. The student of Zeller or Burnet will find little that is new in Mr Mabillean, except his mistakes, but, for the purposes of the general reader, the book may be commended as containing an account of Greek thought on physical subjects which is eminently readable, and, apart from one serious misrepresentation and two unpardonable omissions, fairly correct in its leading outlines. Of the chief defects of the book I am afraid I must speak rather more at length. And first, it seems open to grave doubt how far Mr Mabillean possesses the most essential qualifications for the task he has undertaken in the first part of his handsome volume. Those qualifications are in the main three, a sound knowledge of Greek, a clear conception of the affiliation and relative value of the sources, and a tolerable capacity of lucid and consistent thinking. In respect of none of these qualifications can Mr Mabillean be pronounced entirely competent. It is true that his Greek is not often at fault, but in at least two places he has fallen into blunders which would be inexcusable in an average schoolboy. At p. 174, in discussing the reading and translation of the *locus classicus* in Aristotle *De Generatione* I. 325 A, he is guilty of translating the

words καὶ τοῦ ὄντος οὐθέν μὴ ὄν φησιν εἶναι... "et qu'il ne participe en rien à l'être." It is true that Mr Mabillean is only following here the bad example of St Hilaire, but he is following it consciously and "against the light," as is shewn by the footnote in which he defends this translation against Zeller. And at p. 225 we find the doctrine that "the soul is the most perfect of bodies" ascribed to Democritus on the strength of a fragment which the author quotes in the form ψυχὴ τελεωτάτη σκῆνεος, translating as above. I need hardly say that the mistranslation rests on a simple blunder in quotation; the real text runs ψυχὴ τελεωτάτη σκῆνεος μοχθηρίην ὀρβοῦ, and, of course, contains no hint of the doctrine which Mr Mabillean reads into it. These may be isolated mistakes, but their occurrence is surely "significant of much." It is a more serious matter that Mr Mabillean is apparently in entire ignorance of the results of recent investigations into the sources of our information about the early philosophers. Every writer on pre-Socratic philosophy is of necessity largely dependent on the scrappy and often contradictory reports of the late doxographers and compilers of biographies. Hence it becomes of first-rate importance to be able to trace the statements of these late writers, where possible, to their origin, and to discriminate between those which are and those which are not founded on earlier and better authorities. It is scarcely too much to say that the *Doxographi Graeci* of Diels, in which the task of affiliation has been performed for the *Placita* which have come down to us in a double recension among the works of Stobaeus and of Plutarch, is indispensable for a sound understanding of early Greek speculation. Of this work Mr Mabillean does not seem to have heard. He never refers to Diels in the course of his book, nor, though he is often led to quote and discuss passages of the *Placita*, does he seem to have the slightest suspicion that he is dealing with any authority earlier and better informed than Stobaeus or the pseudo-Plutarch. More excusable is the absence of any reference to Bäumker's scholarly essay "Das Problem der Materie in der Griechischen Philosophie," though a knowledge of its earlier chapters might have saved Mr Mabillean from certain extravagances in his account of the Pythagoreans.

Of Mr Mabillean's lack of philosophical penetration one instance, out of many, must suffice. I will take my illustration from his account and criticism of Democritus, the central figure in his sketch of Greek philosophy. Mr Mabillean (p. 210)¹ joins Zeller in denying that the unthinkableness of eternal motion through the void is a serious defect in the Atomic theory, for the reason that "all physical science" must assume matter and motion as the data of its explanations; on the other hand (p. 234 ff.) he censures Democritus severely for his inability to formulate a "law"

¹ It is true that at pp. 297, 298 Mr Mabillean seems inclined to retract this judgment, but I do not know that that altogether mends matters.

of Atomic movements. Such a judgment apparently ignores the fundamental distinction between Atomism as a physical hypothesis and Atomism as an ultimate theory of metaphysical reality. To formulate the "laws of motion" is the problem of experimental science, and an ancient philosopher is hardly to be blamed for having felt himself unequal to the task; on the other hand, if it is not a serious defect in a metaphysical theory of reality that it cannot be stated without involving the unthinkable, it is hard to see what would be.

As regards the general execution of the first part of his design, Mr Mabileau must be pronounced happier in his actual description of the Atomism of Democritus and Leucippus than in his account of its origin or its subsequent developments. It is above all in the lengthy chapter on the "Antecedents of Atomism in Greece" that we have to deplore the incorrectness and inadequacy of the treatment. On minor misstatements of fact I do not propose to dwell, though it is melancholy to find all the old blunders about Heraclitus (his doctrine a theory of pure phenomenalism, his fire not ordinary material fire, his λόγος reason as opposed to sense-perception) still surviving after all the refutation which has been bestowed upon them. It is more important to call attention to the serious misconceptions which vitiate Mr Mabileau's account of the derivation of the Atomistic idea. Those misconceptions are in the main two; the part played by Pythagoreanism is unduly magnified, and the contribution of the Eleatics to the theory correspondingly under-estimated. Stated briefly Mr Mabileau's view seems to be that the Atom of Leucippus results from the combination of the Pythagorean multiplicity of monads with the Eleatic "One." The conception seems to me fundamentally erroneous. It attributes to the Pythagoreans a direct influence on Atomistic speculation unknown to our best ancient authorities, and is moreover in itself the reverse of probable. The differences between the Pythagorean monad, which is after all simply a visible point, and the atom with its qualities of magnitude, shape, and weight, are too profound for the one to be treated as a derivative of the other. If Atomism owes any special debt to Pythagoreanism, it is surely the infinite void, not the monads, which it has borrowed from the earlier system. The secret of Mr Mabileau's mistakes on this head is perhaps revealed by his account of the Eleatics. For, as Aristotle long ago pointed out, Atomism was essentially an attempt to compromise between Eleatic metaphysics and physical science. Parmenides, the one first-rate philosophical genius of the pre-Platonic period, had apparently annihilated multiplicity and change in so far as they profess to be the ultimate reality of things; physical science on the other hand cannot do without both. Accordingly Atomism attempted the compromise of admitting plurality and motion through space as real, while transferring to each of its countless "reals" the unity and simplicity which Parmenides had asserted of his "sphere," and explaining all

qualitative change as due to spatial reconstructions of changeless elements. In fact the very formula, though not the name of Atomism, occurs for the first time in the Eleatic philosopher Melissus, where, arguing, as it appears, against the pluralism of Anaxagoras, he contends that "if there were a Many, each of them must be such as I affirm the One to be" (Melissus, *Fr.* 17). It is perhaps the gravest defect in Mr Mabillean's work that he has *completely ignored* this important connecting link between Parmenides and the Atomists. Indeed he barely seems to be aware of the existence of Melissus, whose very name, unless I am mistaken, is only twice mentioned in the whole work¹. (A knowledge of the important fragment just referred to might moreover incidentally have saved Mr Mabillean from the mistake of treating Anaxagoras *after* the Atomists proper.) By the side of this extraordinary omission the other defects of Mr Mabillean's account of Eleaticism, though striking enough (*e.g.* he fancies that the physics of the "Way of Opinion" represent Parmenides' own ideas, p. 118, that the Eleatics believed in the infinite divisibility of matter, p. 184), are comparatively insignificant.

Mr Mabillean's summary of the system of Democritus is fortunately freer from error than the mistakes of the preceding chapter would lead one to expect. Apart from the unhappy mistranslations to which I have already referred, his statements, if not particularly original, are in the main accurate, and he has at least the merit of having taken the right side on the question whether the atoms of Democritus are endowed with weight. What one perhaps misses in his narrative is a sufficient sense of the extent to which the epistemological discussions of the "Sophists" and their famous distinction between "nature" and "convention" have blended with more specifically metaphysical and physical conceptions to influence the doctrine, and even the terminology, of Democritus. (Cf. *Burnet*, p. 1 footnote.)

When we pass from Democritus himself to the chapter on the "Variations of the Doctrine" the misstatements and omissions begin anew. Of the misconception involved in the place assigned to Anaxagoras as a modifier of Leucippus I have already spoken. Equally unfortunate is the ascription (p. 245, note 2) of the technical term "homœomeries" to the Ionian. The account of the Anaxagorean philosophy which follows is perhaps quite the most confused and unsatisfactory part of the work. Apart from the confusion which is bound to overtake an interpreter who fails to perceive clearly that the "things" of Anaxagoras, the "seeds" of which "contain portions of everything," are simply the sensible qualities of the phenomenal world, Mr Mabillean gets into still

¹ Even in these passing references Mr Mabillean has contrived to perpetrate a grave inaccuracy. P. 110, Melissus and Zeno "only consolidated and defended" the theories of Parmenides. Yet on one important point, the spatial infinity of the world, Melissus (*Fr.* 8) is in direct opposition to Parmenides.

further difficulties by attempting, after Zévolt, to carry through a distinction between the "seeds" and the "homœomeries" which seems hardly capable of intelligible statement. At least it seems impossible to reconcile the account given at p. 249 according to which the "homœomery" is, apparently, an atom, which, however, is never found in nature except in combination with dissimilar atoms, with the infinite divisibility of matter (cf. Burnet, p. 288).

The most serious defect in this part of the book however, and, perhaps, after the neglect of Melissus, the gravest flaw in the whole work, is the abrupt transition from Anaxagoras to Epicurus. A historian of physical speculation might indeed be pardoned for not taking into account the somewhat barren category-making of Aristotle's *Natur-Philosophie*, but it is difficult to find a decent excuse for Mr Mabillean's absolute silence about the physics of Plato. The mathematical construction of matter in the *Timæus* is, beyond all comparison, the most brilliant and comprehensive theory of the kind in the whole range of ancient philosophy, and it is almost intolerable that it should be passed over without even a passing mention in a work where no less than thirty pages are given to a detailed criticism of the infinitely cruder speculations of Anaxagoras. And it is adding insult to injustice, after an omission of this sort, to repeat against Plato and Aristotle as "irrefutable" Lange's charges of indifference to physical and mathematical inquiry. In the exposition of the doctrine of Epicurus which closes the history of Atomism in the ancient world there is nothing that seems to call for special remark, except, perhaps, the curiously characteristic inconsistency of the various statements about the origin of the doctrine of the *clinamen principiorum*. (Contrast p. 278, c'est un artifice de physicien, ou, si l'on veut, un reste d'hylozoïsme, with p. 279, where, after quoting the well-known passage, Lucretius II. 277 ff., Mr Mabillean proceeds, Voilà la véritable origine de la théorie de la déclinaison, although on p. 287 he suggests that this intimate connection between the *clinamen* and the freedom of the will is a "gloss of Lucretius.")

In the brief *résumé* which concludes Book II. Mr Mabillean indicates what he takes to be the main defects in the theory as worked out by Democritus and Epicurus. Those defects are two: (1)—though this seems hardly consistent with a former passage which I have already commented upon—we need some account of the original impact which set the atoms going; (2) and some theory of the law of their movements. Both requirements, it is hinted, are in a fair way to be satisfied when the physical theory is completed by the addition to it of an extramundane Deity, who is capable of combining in his own person the double functions of ἀρχὴ κινήσεως and intelligent Demiurge. Accordingly we find that the revived Atomism of the 17th century is Democritean Atomism with an added difference; the theistic conception becomes, for the next two centuries at least, an inseparable element in the doctrine. Before passing to Gassendi and the return to Epicurus, however, Mr

Mabilleau devotes his third book to a sketch, avowedly at second-hand, of the still earlier attempt of the Arabian "Mutakallimûn" or "theologians" to utilise a kind of Atomic theory of matter in their controversy with Arabic Peripateticism. Ignorance of the original authorities prevents my offering any criticisms on this part of Mr Mabilleau's work, and the same reason compels me equally to pass over the following chapter on the "Alchemists" with the single remark that, in any case, these confused Arabic echoes of Democritus can have had no appreciable influence on the philosophers and scientists who brought Atomism once more into fashion in the 17th century. Mr Mabilleau's account of these latter is in every way far superior to his preceding books. As we pass from Gassendi to Leibnitz, and from Leibnitz to the chemical and astronomical discoveries of our own day, the author seems steadily to improve in the quality of his information and in his grasp of the subject. The length at which I have felt compelled to review the first half of the work prevents my entering much into detail about the concluding sections, but I may perhaps indicate the chapters on Leibnitz, with whose philosophical views those of Mr Mabilleau, so far as they are allowed to appear, present many points of agreement, and on "Atomism and the Natural Sciences" as particularly suggestive. The latter, of course, makes no pretence to add to the stock of our physical knowledge, but it seems, as far as a layman can judge in such matters, to be a good and clearly-written summary. The chief source of disappointment in this part of Mr Mabilleau's work, to an English reader at least, is likely to be the inadequate and not over-accurate treatment given to Bacon and Locke. The excessive arrogance with which Bacon flaunted a radically vicious theory of logical method before the world as the one and only organ of discovery has not unnaturally led to the undue neglect of his real merits, but one has a right to expect that the historian of Atomism should give more than half a page to the author of the doctrine of "forms." It is the more unfortunate that Mr Mabilleau is not even accurate in the brief notice which he gives of Bacon's position. It is certainly an extreme exaggeration to say, as he does, p. 428, that Bacon's main object was to refute the alchemists, and, though the expression, a few lines further down, "observation must confine itself to efficient causes," may be justified by the context, it is a very unhappy remark to attribute to Bacon, for whom the opposition of the "form" and the "efficient" is fundamental. Altogether the brevity and superficiality with which Bacon is treated tend to produce the impression that Mr Mabilleau's acquaintance with his works is mainly at second-hand. Curiously enough Locke, with whom the Atomistic conception plays a much more secondary part than with Bacon, is honoured with a much longer notice, apparently more because of the influence of his suggestion that "matter can think" upon late French thought than for his own sake. For Mr Mabilleau Locke is a "Newtonian turned critic," and the main result of his criticism is

to prove the unthinkability of extended solid atoms, and so to pave the way for Boscovich and the conception of the atom as a mathematical point. This statement of the case seems however hardly accurate. The true definition of Locke would surely be "Baconian growing sceptical," for the "real essence," which for Locke constitutes the inmost nature of a thing, is simply Bacon's "form" with the added characteristic of being unknowable. And the passages which Mr Mabileau produces to support his view scarcely prove the case. Throughout II. 23, for instance, Locke repeatedly assumes that the "particles" or "little bodies" of which visible things are composed, are, as a matter of fact, both solid and extended, though we cannot tell *how* these two qualities cohere in the same subject, or, in other words, can form no conception of a "substance" which "supports" them. The second passage produced by Mr Mabileau (II. 4) only becomes relevant if "hardness" and "solidity," which Locke always distinguishes, are treated as identical. Locke would have been the last person to deny the real existence of solid extended corpuscles, which are, after all, from his point of view, none the worse off for being unthinkable.

In the two concluding chapters of his work Mr Mabileau changes the part of historian for that of critic and of advocate. Step by step, as we have passed from the crude metaphysics of Leucippus to the refined scientific hypotheses of our own day, the atom has been losing more and more of the concrete qualities with which it was at first invested, till, at last, we seem to be dealing with "units" and "forces" which are openly and avowedly mere mathematical symbols, "phenomenal of the unknown." Atomism has finally ceased to be a philosophy and has become a mere systematisation of phenomena. Yet Mr Mabileau is not prepared definitely to part company with the conceptions which have guided him throughout his historical survey. The key to the question "what is the reality which the scientist's atoms and their motions symbolise?" is, he holds, to be found in the data of self-consciousness. In self-consciousness we have revealed to us the only form of absolute unity and simplicity of which we know; we apprehend the world "from the inner side," whatever that may mean. The final conciliation of science and philosophy lies, for Mr Mabileau as for some others, in a return to Leibnitz. The atom of the physicist is only the "external" symbol of an "inward and spiritual" unity of which the developed type is to be found in the human mind. And when for the countless atoms, moving eternally under the impulsion of a blind necessity, we substitute a world of interrelated monads, subordinated to one another throughout the whole hierarchy of existence, and combined according to an intelligible plan by the action of the supreme *Monas Monadum*, Atomism seems at last to have fulfilled the task which had been set before it at the end of Mr Mabileau's sketch of Greek philosophy. It has found its Demiurge and its ἀρχὴ κινήσεως. In the words of Voltaire, it has

"discovered the soul and God"; and it is this peculiar adaptability to spiritualistic and theistic preconceptions which apparently gives it its chief value in the eyes of our author.

Fully to investigate the merits of this spiritual Atomism would carry us far beyond the limits necessarily imposed upon a review like the present; I will however, in conclusion, indicate as briefly as I can where its inherent weakness lies. Monadism is essentially an illogical attempt to produce reality by the unscientific fusion of two confessed unrealities. With the physical atom the case is of course clear; it is admittedly no more than a symbol which it is convenient to employ for purposes of physical investigation; at least, the man who takes it for anything more exposes himself to metaphysical objections which are apparently unanswerable. And it would not be difficult to shew that the unitary self-consciousness of the Monadist is in the same plight. The absolute unity of the "soul" is, at best, a psychological working hypothesis, and even psychology seems to flourish better without it. The illegitimate nature of the monadist assumption has been once for all exposed by Kant; and if anyone refuses to hear Kant, even so simple a question as the familiar one "Whether Socrates awake and Socrates asleep are the same person?" may reasonably give him pause. But from the off-hand synthesis of two such mere unrealities, how is metaphysical truth to arise? At most Monadism seems to offer us a kind of psycho-physical hypothesis under the pretence of giving us a philosophy. And, even as psychophysics, the hypothesis seems singularly arbitrary; why might we not suppose, what indeed from many points of view is more plausible, that the psychologist's unit *always* corresponds to a complex physical resultant? Even on the theory of thoroughgoing parallelism between matter and mind, we are hardly committed irrevocably to the *Atom-Seele*.

The fact is, Monadism is rather the result of accommodation to theological preconceptions than the serious outcome of unbiassed philosophical reflection. So arbitrary a synthesis is scarcely likely to find much favour in any quarters but those where religious feelings are allowed to exercise an illegitimate influence on speculation. It is no apology for the inherent incredibility of an hypothesis to say that it affords "the shortest way to the discovery of the soul and God." *Non tali auxilio, nec defensoribus istis*. The philosopher has no right to assume the reality of God and the soul *ab extra*, nor to defend their existence by a metaphysical blunder. Short cuts are, after all, occasionally deceptive.

A. E. TAYLOR.

Grundriss der Psychologie. Von WILHELM WUNDT. Leipzig: Wilhelm Engelmann, 1896. London: Williams and Norgate. Pp. xvi, 392.

PROFESSOR WUNDT'S *Psychologie* has long been looked for. He has written it at last, in order, in the first place, to provide a text-book for his students; and, in the second, to lay before a wider circle of readers a systematic survey of the most important results of the newer psychology, based on the views which years of study have led him to recognise as correct. It is the result of long and varied investigation and is characterised, as one might expect, by terseness and consistency of treatment, and by a certain finality. The general tendencies of psychological method are briefly discussed; and the dangers, in particular, of a metaphysical bias and of the modern developments of the faculty psychology are clearly brought out; but almost no reference is made to the work of contemporary psychologists, and the points presented as open to question are matters of psychological theory which require further experiment for their demonstration. The book is a brief, clear and consistent exposition of Wundt's psychological system; and more than this could hardly have been achieved within the compass of a single admirably printed volume. Much of the detail has appeared already in the *Grundzüge*; but the adoption of a purely psychological standpoint gives a special interest to the *Grundriss*.

Wundt's system is, to use his own terms, empirical and voluntaristic. Psychology is complementary to the natural sciences, dealing with the same experience from a different point of view, and more strictly empirical than they, because it considers the contents of experience as actually given to the subject, without abstractions and hypotheses. In this way the question of Parallelism is solved. It is needless to draw a hard and fast line between psychical and physical objects, when the difference is entirely a difference of point of view; and, for the same reason, it is possible to bridge over gaps in the continuity of psychological explanation by borrowing for the moment the physiological standpoint, and *vice versa*. But though the two sciences are complementary, they are not co-extensive. Some objects are always given under the form of mediate, others of immediate experience. Processes of fusion and apperception, for instance, can only be analysed psychologically; and the phenomena of light and sound must be explained in terms of physiology and physics. Psychical causality, though never conflicting with physical causality, has laws of its own, and to their investigation the present book is devoted. Except in the chapters dealing with spatial and temporal presentations, there is little psychophysical detail. Reaction-time experiments and the localisation of psychophysical functions are briefly treated. The localisation of apperception is not abandoned, but mentioned as being insufficiently established.

The psychical elements, which are the subject of the first section

of the book, are divided into pure sensations and simple feelings. They are alike in having the two properties of quality and intensity, and are distinguished by the fact that qualities of sensation form a continuum bounded by maximal differences, while a feeling gradually passes over through a zone of indifference into a feeling of opposite quality. Wundt does not now regard feeling-tone as a determinant of sensation; but prefers to say that every change in either intensity or quality of sensation is accompanied by a change in both intensity and quality of feeling. Feelings are not classified, except in so far as they follow one or more of three main directions: Pain and Pleasure, Excitement and Depression, Tension and Release. Whether the conception of feeling as ranging in a single line between pain and pleasure is adequate to account for all emotional states may reasonably be questioned; but Wundt's theory, that the three directions correspond to the relations of a single feeling to the course of psychical processes, is not very convincing. According to it, every feeling (1) involves a modification of the psychical state at the moment, this modification being in the direction of pain or pleasure; (2) exercises on the following state an influence in the direction of excitation or inhibition; (3) is determined by the preceding state, the effect appearing in the form of tension or release. "These conditions make it probable that no other directions of feeling exist." A scheme is given showing how the combinations of strength or weakness with quickness or slowness of pulse may be said to correspond to these six directions of feeling.

The second section is occupied with the psychical formations (*Gebilde*): presentations, emotions, and processes of will. On the side of sensation, there are intensive, spatial and temporal presentations, on the side of feeling, intensive combinations of feeling, emotions and processes of will. A presentation is intensive if its elements are combined "in an order that may be altered at will"; and extensive (spatial or temporal) if the elements are combined in a fixed order. A spatial or temporal presentation is, in fact, a presentation apprehended as localised or as in a time-order. The definition of a spatial presentation is, accordingly, "a tridimensional formation, the parts of which are in a fixed reversible order, having to the subject a relation (*Orientierung*) that may be changed at will." The characteristic of a temporal presentation, on the other hand, is that any change in the relation between the elements always involves a change in the relation to the subject. Spatial presentations are explained, in the case of the blind, as being fusions between external sensations of touch, with their qualitatively varying local signs, and intensively varying internal sensations of touch (muscular sensations). Visual images, excited by local signs, are an important factor in the tactile spatial presentations of persons who can see. Visual spatial presentations are treated separately, on a similar method. The point that temporal and spatial properties emerge on the level of psychical formations and cannot be attributed to an isolated sensation is strongly emphasized. The distinction

between nativistic and genetic methods is sharply drawn; and the reader is invited to choose between accepting Wundt's view and assuming in the most limited sensation the presentation of all tridimensional space. No reference is made to the theory of extensity. The ordering of impressions in time is explained as being furthered by temporal signs, which possess temporal properties when combined, though not when isolated. These are either qualitative, feelings of expectation, or intensive, sensations of movement. A temporal presentation is the product of fusion, first, between the two kinds of temporal signs and, secondly, between them and objective sensations brought into a time-order.

Wundt's method of classifying the emotions is threefold. The quality of the feelings involved may be one or more of the three main directions of feeling. The intensity may be psychically strong or weak and will also depend on the sthenic or asthenic character of the physical accompaniments. In form an emotion may be sudden, gradual, or intermittent.

One of the best parts of the book is the chapter on Will, which is regarded as the highest kind of psychical formation and the typical psychical process. It is explained as being an emotion passing over into a sudden change in the content of presentation and feeling which brings the emotion itself to an end. In the primitive form an act of will always consists in movement; and such a process is defined as an emotion ending in a pantomimic movement, the external effects of which put a stop to the emotion. Thus all acts of will depend on the principle of the contrast of feelings. Feelings of pain are followed by motor reactions which bring about feelings of pleasure. The process is traced from the simple action of impulse to the complicated forms of willing; and the gradual mechanisation of voluntary processes is explained on the view that all reflex actions are originally voluntary.

All discussion of consciousness and attention is postponed to the third section, which deals with the interconnection (*Zusammenhang*) of psychical formations. The concept of consciousness, whether individual or social, "expresses that general combination of psychical processes, in which single formations stand out as closer combinations." All processes of attention are "internal actions of will," passive apperception corresponding to the action of impulse, and active apperception to voluntary action. The elements of will are shown even in the simple feeling. Pleasure and pain correspond to the direction of will, excitement and depression to the energy of will, and tension and release to opposed phases of voluntary action.

Willing being the fundamental fact, the feeling of activity which accompanies it is closely connected with "an immediate feeling of the interconnection of all individual psychical experiences." This is Wundt's definition of the "I," which, he remarks, is often erroneously called a presentation. Self-consciousness is a content of feeling and presentation closely fused with the I-feeling. Recollection is explained as resulting from a simple process of recognition,

when the hindrances to immediate assimilation are so great that the presentational elements opposing the new perception unite into a presentational formation which is directly referred to a previous impression. The properties of apperceptive combinations are discussed with some fulness. They are the simple functions of relating and comparing, and the compound functions of synthesis and analysis. Judgment is regarded as an analytical function. The products of this analysis are conceptual presentations, which are accompanied by a "conceptual feeling," owing to the presence, as memory-images, of dim presentations which might have represented the concept.

The fourth section, on Psychical Developments, deals briefly with the psychology of animals, children and communities. The last and shortest is devoted to the Laws of Psychical Causality. Three psychological laws of relation are given. The first, the law of psychical resultants, "finds its expression in the fact that every psychical formation shows properties which may, after they are given, be deduced from the properties of its elements, but which cannot be regarded as the mere sum of the properties of the elements." The second law embodies the principle that every psychical content receives its significance from the relations in which it stands to other psychical contents. The third is the law of contrasts. In their broader application these laws appear as the law of mental growth, the law of heterogony of ends, and the law of development by contrasts. The second is significant chiefly for ethics, the third for history.

These laws are a brief statement of the principles on which the book is based. Its purpose is to show that every psychological process, however complex, may be traced back to combinations of simple psychical elements. The conception on which Wundt desires most to insist is that of causality; consequently, though the psychological subject is never left out of account, the psychological individual is not introduced at all. To the beginner this method may present some difficulty; but the symmetry of arrangement which characterises the book will help him to grasp it as a whole. The double aspect of psychology, which has its simplest form in the distinction between sensation-elements and feeling-elements, is kept in view throughout; and the two sides, while treated as parallel lines of development, are brought together, at the different stages of psychological advance, as different aspects of the same thing which can only be separated by abstraction. Such fundamental truths as, for instance, that all psychological facts are necessarily processes, are continually kept before the reader; and all the terms employed are precisely defined. References to other works have been given so fully in the *Grundzüge* that they are entirely omitted here. The alphabetical index is accurate, so far as it goes; but might with advantage be made more complete in a second edition.

MISS E. F. STEVENSON.

VII.—NEW BOOKS.

Anarchy or Government? An Inquiry in Fundamental Politics. By WILLIAM MACKINTIRE SALTER, Author of "Ethical Religion" and "First Steps in Philosophy." New York: Thomas Y. Crowell & Company. Pp. 176.

MR SALTER is one of the small band of high-minded men who have dedicated themselves to the service of the "Ethical Culture Movement" in the United States. No better expression of the spirit animating the promoters of that Movement could be pointed to than the collection of lectures, published some years ago under the title of "Ethical Religion," and which found a translator in Germany in the late Professor Gizycki. This book was duly noticed at the time in *Mind*, but a small volume by the same author, which appeared in 1892, of a more theoretical character (*First Steps in Philosophy, physical and ethical*, London: Swan Sonnenschein & Co.) accidentally escaped acknowledgment. It shows, however, the author to be, not merely a man of singular moral earnestness, but also an acute and close thinker. Part I. of *First Steps in Philosophy* consists of an examination of the idea of "Matter," Part II. deals with the concept of "Duty." As the title of the book suggests, there is no attempt at exhaustive treatment; none the less, the clear statement of principle and fair criticism in each Part, of other points of view give it no little propaedeutic value. The hardened realist, popular or scientific, will certainly be the better for reading the first 70 pages; while the subjectively-biassed intellect may be taught caution in presenting his idealism. In practical philosophy Mr Salter espouses the doctrine of the realization of each being's nature as the ethical end. Two short chapters are devoted to Intuitionism and Utilitarianism as rival standpoints. A certain truth is allowed to each of these, but not as ultimate and self-sufficing. While sympathising with the author's drift in this second Part, we cannot but think that the discussion, though always suggestive, is less convincing and satisfactory than that having regard to the problem of Matter. Perhaps this is due to the more complicated nature of the practical problem, requiring ampler space than the limits of the volume allow.

The author's recent volume, of which the title is given above, carries us into the field of political Ethics. It owes its origin to courses of lectures, delivered first at Plymouth, U. S., then in more expanded form before his own Society for Ethical Culture at Philadelphia. All but the last chapter is fundamental inquiry, being a balancing in various regards of the advantage and disadvantage of Government and No-government. The last chapter has reference to the special case of the Pullman-Chicago Strike of 1894. In the first three chapters the notions of Government and Anarchy (absence of government) are generally examined, in the three following the special applications in Defensive War, in protecting Life and Property, in

promoting the Higher Ends of Life, and in the industrial realm are considered.

By Government the author understands rule with the power of enforcing it. Whatever be its origin, whenever rule is set up with the power or right of compelling obedience to its commands, we have obedience in the proper sense. Anarchy, on the other hand, is always voluntarism. It is not necessarily social atomism. Individuals may constitute themselves members of an ethical corporation, and the corporation so formed might issue decrees; but if the right were retained of acting in each case according to one's own judgment and no further, though there would be a society, and perhaps on the whole an orderly society, there would be no government. So that Anarchy is synonymous with Individual Liberty; but might still be moral associationism. This being so, in an enlightened condition of the world the question between Government and Anarchy is simply one of expediency. As there are few established governments that do not leave a good deal to private enterprise, so it is quite conceivable that voluntary cooperation might accomplish more than the most compact compulsory union, and might even be the visible sign of more far-reaching internal coherence. The value of Mr Salter's treatment is in dispelling certain assumptions as to social "rights" and "necessities," which find their way into the most reputable treatises. There is much effective criticism of Mr Spencer, whose inconsistencies in respect of the limits of government, and dubious ethical economics, are well displayed. One feels in reading the book that the author is not merely a closet-student of political philosophy, but in close contact with the practical difficulties of the hour, especially as manifested in his own country. A thoughtful chapter, entitled "Anarchy or Government in the Industrial Realm," concludes with the words:—"I hold in perfect consistency to the two ideals,—government now and an end of government in time to come. The social consciousness, in proportion as it is real, demands government under existing circumstances; but finally the social consciousness may be so perfect that government will be allowed to drop away like an out-grown shell. To work for the enlarging and deepening and spreading of the social consciousness in the minds of our American people, to increase the sense of our belonging to one another, to make us feel more and more that an injury to one is an injury to all, is, in my judgment, one of the great ethical tasks of to-day."

Proceedings of the Aristotelian Society. Vol. 3, No. 2. London: Williams & Norgate, 1896. Pp. 135.

Seven of the papers read before the Aristotelian Society in 1895-96 are here reproduced, together with other seven constituting two symposia. The presidential address forms the first paper, and deals with "Time and the Absolute," as illustrating the views contained in the address of last year. The second paper, by Mr Benecke, consists of a careful discussion of the two senses in which the term *à priori* has by different writers been applied to knowledge. Mr Benecke himself is inclined to introduce a third sense according to which the *à priority* of knowledge is determined by the date of its acquisition in the individual mind. It thus becomes a merely relative term, and knowledge which is *à posteriori* to-day as compared with the knowledge of yesterday, will be *à priori* to-morrow with reference to the information to be received the day after. In order, however, to avoid the confusion of introducing a third meaning he uses the terms *prioric* and *posterioric*.

Mr Russell enters upon a similar discussion in his paper on "The *à*

priori in Geometry." He reduces the axioms which are strictly *a priori* to three which are involved in any form of externality, but rejects as empirical those which refer especially to Euclidean Space.

Mrs Bryant contributes a paper on the emotions, taking Prof. James's theory as a text, and arguing against him in favour of the more purely mental element in the emotions, as opposed to their manifestation in mere bodily sensations.

More historical in their interest are the papers by Mr Webb on "Anselm's Argument for the Existence of God," and by Mr C. Llewellyn Davies on "Kant's Teleology"; though both writers conclude with a brief application of their results to our present day needs. This latter point of view, on the other hand, is predominant in Mr Blunt's paper on "Philosophy and Naturalism," in which the shortcomings of Naturalism as resulting logically in "the irrationality of the world with consequent pessimism" are censured, and the claims of Philosophy maintained.

The symposia are of special interest as bringing together the very different points of view from which a subject may be discussed, and as revealing the very different colouring which it assumes in its passage through different minds, even when they arrive at a consensus of opinions. In the symposium on "In what sense, if any, is it true that Psychical States are extended?" Mr Stout, Mrs Bryant, and Mr Muirhead take part, but only Mrs Bryant is able to find the required sense, and she is obliged to limit it carefully. The second symposium on "Are Character and Circumstance Co-ordinate Factors in Human Life, or is Either Subordinate to the Other?" is introduced by the President, and his conclusion that circumstance is subordinate is accepted with various provisos and on various grounds by Miss Jones, Mr Gildea and Mr Shand.

H. BOSANQUET.

Psychic Development of Young Animals. From the Transactions of the Royal Society of Canada. By WESLEY MILLS, M.A., M.D., F.R.S.C., Professor of Physiology in McGill University, Montreal. Ottawa: John Durie and Son. London: Bernard Quaritch, 1895.

The work of Mr Wesley Mills is of a kind which deserves a hearty welcome from all who are interested in psychology. It consists so far of six papers, dealing respectively with the Dog, the Cat, the Mongrel Dog, the Dog and Cat compared, the Rabbit and the Cavy, the Pigeon and the Domestic Fowl. The method adopted is that of keeping a record showing the gradual progress of the animals from day to day. Great care is taken to test the development of the senses. The author in each case appends to the diary remarks and a summary of conclusions. The remarks are sometimes too condensed to be readily intelligible. One of the chief points which his diaries seem to us to illustrate is the gradual transition from isolated sensory reactions to combinations of movement controlled by perpetual synthesis of sensory data. It would be interesting to have an exact correlation between the various stages of mental development and the corresponding phases of brain growth. We gather from various hints that Dr Mills has not neglected this side of the subject, and we presume that his results will appear in subsequent papers.

Du Contrat Social. Par J.-J. ROUSSEAU. Édition comprenant avec le texte définitif, les versions primitives de l'ouvrage collationnées sur les manuscrits autographes de Genève et de Neuchâtel, avec une introduction et des notes par EDMOND DREYFUS-BRISAC, rédacteur en chef de la *Revue internationale de l'Enseignement*. Paris: Félix Alcan, 1896. Pp. xxxvi, 426.

No one can doubt that the abstract form of social speculation characteristic of the middle of last century still has enormous authority in democratic countries, in spite of all the destructive criticism which has intervened, and destroyed its vogue with scholars. It is still maxims like "one man, one vote," with their blameless quasi-axiomatic plausibility, which sweep great populations, and serve as the flags under which the blundering battles of actual politics are usually fought. There is a singular tenacity of life in these labour-saving eighteenth century principles; nor is it only in untilled soil that they flourish. Despite the criticisms of Austin and Maine, and the masterly work of the historical school, they are constantly cropping up in all the social sciences, usurping the place which should be taken by the study of history and fact. If then, we still have to reckon with this mode of thought, it is worth careful study: and if it deserves study, it can hardly be better studied than in Rousseau. Never has it found a more splendid or persuasive literary expression than in his *Contrat Social*.

But Rousseau is not read. "Rousseau est célèbre," says M. Dreyfus-Brisac, "mais il n'est pas connu." M. Dreyfus-Brisac has removed all excuse for such ignorance so far as the *Contrat Social* is concerned by the admirable edition he now gives us. It is a work of truly historical character carried out upon lines which will commend themselves to scholars, and especially to the readers of this Journal. Instead of wearying the reader with subjective appreciations, the editor has endeavoured first to define Rousseau's meaning by reference to the "perpetual commentary" which is afforded by passages in his other writings, and secondly to illustrate his positions by comparison with similar passages in other great political writers, and notably in Hobbes, Spinoza, and Montesquieu.

Besides the text of the *Contrat Social*, carefully collated from the different editions, and from the MS. of Geneva, the volume contains the text of this MS., passages bearing on the composition of the work, and large extracts from other works of Rousseau: together with reproductions from the MS., illustrating Rousseau's writing and other important particulars bearing on the authenticity of the text.

The whole is prefaced by a short but excellent introduction. The editor here gives a concise account of the circumstances and form in which the *Contrat Social* first appeared, and a brief abstract of its contents. He also takes occasion to explain the principles by which he has been guided in his editorial work, and the canons of interpretation which seem to be proper for treatises produced under eighteenth century conditions: principles so judicious that, did space permit, one would be tempted to quote them. The introduction ends with a modest commendation to the reader. M. Dreyfus-Brisac tells us he has not sought to adjudge praise or blame, sincere admirer as he is of Rousseau. He has only had one object in view. "J'ai voulu faire mieux connaître Rousseau." The book is admirably calculated to realise its author's aim.

Études historiques sur l'Esthétique de Saint Thomas d'Aquin. Par MAURICE DE WULF, Docteur en Droit, Docteur en Philosophie et Lettres, Professeur à l'université de Louvain. Louvain: Institut Supérieur de Philosophie, 1896.

From Xenophon, Plotinus, and St Augustine, and yet more directly from the writings rightly or wrongly identified with the name of Dionysius the Areopagite, St Thomas draws the two fundamental principles of his theory of objective beauty, viz. proportion or symmetry, and brightness of

colour. But beauty besides its objective has also a subjective aspect, inasmuch as it connotes a series of psychical phenomena. Beauty makes an *impression*; we *perceive* beauty; and from this perception comes *enjoyment*. Hence aesthetic must have a psychological as well as a metaphysical aspect. Though this may have been in some instances taken for granted by the early philosophers, Professor de Wulf finds it definitely formulated for the first time in the well-known dictum from the *Summa Theologica*: "Pulchrum respicit vim cognoscitivam; pulchra enim dicuntur quae visa placent; unde pulchrum in debita proportione consistit." Here beauty is clearly seen to be a relative idea, implying not merely the perfection of an object, but its apprehension and cognition by the intellect. It would take too long to note even cursorily the intimate relation existing between the "claritas pulchri" and the formal cause of entities as understood in Scholastic Philosophy. Suffice it to say that Professor de Wulf deduces therefrom the modern theories of the ideal in art as an outcome of the aesthetic of St Thomas Aquinas. In the second and concluding chapters of his treatise M. de Wulf passes under review the theories of the philosophers of antiquity concerning the good and the beautiful. From Socrates, who denoted their indissoluble union in the word *καλοκαγαθία*, to the latest patristic writers, the good and the beautiful seem to have been considered in all respects absolutely identical. But, according to St Thomas, while the beautiful and the good are identical ontologically, they are not so psychologically. In a few concluding words Professor de Wulf contrasts ancient, mediaeval, and modern aesthetic, and assigns preëminence to the mediaeval aesthetic.

Éléments de Psychologie Humaine. Par J.-J. VAN BIERVLIET, Docteur en Philosophie et en Sciences, Professeur Ordinaire. Paris: Félix Alcan. London: Williams and Norgate, 1895. Pp. 317.

165 pages of this book are devoted almost exclusively to an account of general physiology and of the physiology of the senses. Then follow expositions (1) of the psychology, and (2) of the "psycho-physiology" of conscious phenomena. In spite of his marked physiological bias, the author maintains that certain conscious functions are without material correlates. Though mental images exist only as concomitants of neural states, judgment, comparison and reasoning are the work of an independent Ego. Similarly, it is argued that the will is free and "immaterial." For the rest, the psychology of the author is crudely associationist. None the less, the book deserves some praise. It is written with conspicuous lucidity and elegance, and may help the beginner in acquiring knowledge of the physiological prolegomena of psychology.

Les Principes du Positivisme contemporain. Exposé et Critique. Par J. HALLEUX, Docteur en Droit, Docteur en Philosophie. Paris: Félix Alcan, 1895. Pp. 347.

Positivism is justified as a reaction against the exaggerated spiritualism which began with the philosophy of Descartes. It opposes to an Ego entirely spiritualised, an Ego entirely materialised; to intuitive knowledge of existence *per se*, a purely phenomenal knowledge from which is hidden everything in the nature of cause or substance. The main point urged by the author in criticism of positivism, is that apart from these metaphysical principles of cause and substance, positive science would itself be impossible.

La Morale des Philosophes Chinois. Extraits des livres classiques de la Chine et de l'Annam. Par J.-L. DE LANESSAN, Professeur agrégé d'Histoire naturelle à la Faculté de médecine de Paris, Ancien gouverneur général de l'Indo-Chine. Paris: Félix Alcan, 1896. Pp. 124.

An interesting collection of extracts from the classical Chinese moralists, accompanied by a running comment. The topics are methodically arranged under the heads: Foundations of Morality, Individual Morality, Family and Social Morality, and Political Morality. This book may be recommended to students of national character, and it is likely to prove a happy hunting-ground for collectors of ethical extracts.

Hobbes Leben und Lehre. Von FERDINAND TÖNNIES. Stuttgart: Friedrich Fromann. London: Williams and Norgate. Pp. xiii, 232.

English readers have had, since 1886, an excellent monograph on Hobbes by the late George Croom Robertson. In the present work Tönnies does for Germans what Robertson has already done for Englishmen. Dr Tönnies has long been known as a student and editor of Hobbes. He has critically examined and corrected the text of Sir W. Molesworth's edition; he has edited Hobbes's *Elements of Law*, and published, for the first time from the original MS., the "Behemoth, and the Long Parliament."

We have failed to find in Tönnies' work any important statements of fact not contained in that of Robertson. The differences between them lie chiefly in their respective estimates of Hobbes. Robertson is the more severe, Tönnies the more lenient critic. The attitude of Hobbes, like that of most of his great contemporaries and successors, including Locke, towards the ancient philosophy was one of comparative ignorance. The Aristotle, e.g., of Hobbes was not the writer with whom the world has been for the last half century renewing its acquaintance, but the false presentment of him given by mediæval sages. In the beginning of the *Leviathan* Hobbes scoffs at the doctrine of 'visible, audible and intelligible' species "grounded on certain texts of Aristotle"—a doctrine which, of course, the author of the *De Anima* never held; but in the same page adopts the really Aristotelean, but even then exploded, view of the heart as the presiding member of the sensory system. This deficiency on Hobbes's part is carefully pointed out by Robertson, but scarcely noticed by Tönnies.

Tönnies, too, is inclined to credit Hobbes with an undue share of influence on, or anticipation of, the course of subsequent philosophy. Spinoza's political theories may have been affected by the *Leviathan*; but it is extravagant to suppose, as Tönnies (pp. 159—60) almost does, that the ingenious device by which the Jew of Amsterdam tried to conciliate the spiritual and material aspects of truth had really occurred to the philosopher of Malmesbury. The latter, indeed, was not distinctly aware of the need of any such conciliation; not seeing clearly the difficulties of his theory that motion, and motion alone, can explain perception, while the facts of physics, on the other hand, are all given in and by perception. From this vicious circle, in which he often moves with manifest uneasiness, he never made a decisive attempt to free himself. In his judgment of Hobbes's relationship to mathematics and physics Robertson is more rigorous, and, we venture to say, more just than Tönnies. It was indeed strange that Hobbes, whose habit of mind was remarkably positive, should have slighted the methods of scientific experiment, while Boyle and others were, in the true Baconian spirit, and with much more profit than Bacon,

"interrogating nature." In mathematics Hobbes was *ἀφύμαθης*. This was pardonable. But that a philosopher should be blind to his own deficiencies, and obstinate in his claims to authority, in this branch, was less to be excused. The weakest side of his character as a man and as a philosopher appeared in his foolish controversies with Boyle and Wallis. The crushing defeat which the latter inflicted must have destroyed his character as a mathematician; and he was not likely to fare much better at the hands of the former. Under these circumstances we are at a loss to understand Tönnies' surprise (p. 60) that Hobbes was not chosen a Fellow of the newly-founded Royal Society, or his suggestion that this was owing to the personal ill-will of Wallis and of the Church party. For unreasonableness, nothing in Tönnies' monograph equals this suggestion. How could the Royal Society, with its well-known character and aims, have admitted to Fellowship one whom its leading spirits regarded—and with more than apparent truth—as a sciolist in mathematics and an enemy to the true methods of advance in Physics? Tönnies (p. 55 n.) thinks that Robertson exaggerates the historical importance of Hobbes's controversy with Wallis; to us it appears to largely explain why Hobbes so little influenced the best minds of his day in England. Descartes, like Hobbes, had promulgated a great deductive system; but he won confidence for his 'method' by the publication, in the following year, of the *Géométrie* in which the splendid results of that method were exhibited. The discursive thinking—the so-called philosophy proper—of Leibniz and of Kant had similar and equally sound credentials. But the attempts of Hobbes to shine in science were not only fatuous in themselves, but fatal to public confidence in his philosophy.

Tönnies seems peculiarly attracted by one whom (he says), "Englishmen still designate as the Father of Unbelief in their Land," whom moreover A. Comte pronounces "the father of revolutionary philosophy." While it is true that English thinkers, as a rule, far from identifying atheism with enlightenment, see no positive connexion between them, it is equally true that Hobbes's failure to impress his fellowcountrymen was less owing to their natural prejudice, than to his having inspired men of science in England with an utter distrust of his pretentious dogmatism. In psychology and politics—the fields in which his best work was done—the writings of Locke soon engaged the attention of Europe, and completed his obscurity.

JOHN I. BEARE.

Die Grenzen der naturwissenschaftlichen Begriffsbildung. Eine logische Einleitung in die historischen Wissenschaften. VON DR. HEINRICH RICKERT, ao. Professor an der Universität Freiburg i. B. Erste Hälfte. London: Williams and Norgate, 1896. Pp. 304.

The author gives the following summary in a Preliminary Note: "I attempt to fix the limits of natural science, for the purpose of bringing into light the essence of the historical sciences. The present instalment of the work endeavours to show what History is *not*. The second instalment, which is likely to appear before the close of the present year, will deal positively and directly with the logic of History." The general point of view of the author is that it is the aim of natural science to discover the system of abstract laws, and that of history to describe the concrete facts as we find them in their actual space and time relations. The book is well written, and forms a valuable contribution to applied logic. Fuller notice will follow when the Second Part is received.

VIII.—PHILOSOPHICAL PERIODICALS.

THE AMERICAN JOURNAL OF SOCIOLOGY. Vol. I. Bi-monthly: July 1895—May 1896. Chicago: The Chicago University Press, 1896. The University of Chicago is to be congratulated on the production of the first volume of the *American Journal of Sociology*. Hitherto no American magazine has exclusively devoted itself to the scientific treatment of the subjects properly belonging to sociology or the science of human society as a whole. The University of Chicago has undertaken the task of supplying this want and has assumed the financial responsibility for the undertaking. It was considered that a Journal of Sociology was needed as a means of co-relating investigation in the specific social sciences. The new Journal will not be the organ of any school of sociological opinion. It will serve as a clearing house for the best sociological thought of all schools. The editorial responsibility will rest with the department of Sociology of the University of Chicago. Advising editors and contributors will be drawn from the ranks of the most eminent social thinkers in Europe and the United States. The editors from time to time will express their own views, but the pages of the Journal will be open to the exposition of contradictory views whenever the latter have sufficient justification to deserve the attention of competent thinkers. "The cardinal principle of editorial policy," says the prospectus, "will be insistence that the relation of details to the whole plexus of society activities past, present and future shall be the fundamental consideration. The sociological point of view will thus be maintained in distinction from the standpoint of the specialist."

In an introductory article the Editor, Mr Albion Small, further enlarges on the scope of the Journal. It will be devoted, he says, to the organisation of knowledge pertaining to the relations of men in society into a sociology that shall represent the best American scholarship. But the Journal will not be a merely technical publication. It will attempt to translate sociological ideas into the language of ordinary life. As Mr Small very truly observes, "if sociology is to be of any practical influence it must be able to put its wisdom about things that interest ordinary men in a form which men of affairs will see to be true to life." In treating of specific proposals for social amelioration the object of the Journal will be to explain these proposals not merely in their relation to immediate ends but in their relation to the most remote results which may be expected to flow from them. These proposals will be estimated not by their value as palliatives but with reference to the nature of the modifications which they are calculated to produce on the type and tendencies of society. The present volume contains discussions on sociological method, on the relations between sociology and kindred sciences, on sociological tendencies, and on social conditions and processes of a significant character. We cannot notice in detail the various articles of which the first volume is composed.

But we may mention that Mr Lester F. Ward's series of papers on the place of Sociology among the sciences are particularly well done. Mr Ward expresses himself in vigorous and pellucid English, he is at home in his subject, and whether the reader agrees with him or not he always feels that he is being addressed by a man of penetrating grasp. Mr Henderson's article on the Place and Function of Voluntary Associations deserves notice. The reviewing is on the whole carefully done. We commend the Journal to readers desirous of keeping in touch with social ideas and movements in the United States.

W. D. MORRISON.

REVUE PHILOSOPHIQUE. Vingt et unième année, No. 4. (Avril, 1896.) **G. Fonsegrive**. 'Généralisation et induction.' (1^{re} article.) **H. Bergson**. 'Mémoire et reconnaissance.' (*Fin.*) **Ch. Féré**. 'Civilisation et Névropathie.' Revue Générale &c. No. 5. (Mai, 1896.) **A. Fouillée**. 'Nécessité d'une interprétation psychologique et sociologique du monde.' **F. le Dantec**. 'L'évolution chimique de l'espèce.' **G. Fonsegrive**. 'Généralisation et induction.' (*Fin.*) Observations et Documents &c. No. 6. (Juin, 1896.) **G. Dumas**. 'Recherches expérimentales sur la joie et la tristesse.—I. La joie.' **R. de la Grasserie**. 'De l'involution et de l'ordre respectif des idées révélés par le langage.' **Ch. Féré**. 'La main, la prehension et le toucher.' Revue Critique &c. No. 7. (Juillet, 1896.) **L. Dauriac**. 'Études sur la psychologie du Musicien.—VI. Le plaisir et l'émotion musicale.' **G. Dumas**. 'Recherches expérimentales sur la joie et la tristesse.—II. La tristesse.' **B. Münz**. 'La Logique de l'enfant.' Revue Générale &c.

REVUE DE MÉTAPHYSIQUE ET DE MORALE. 4^e année, No. 3, Mai, 1896. **H. Bergson**. 'Perception et matière.' [Extracts from a work soon to appear in the Alcan Series, the *momenta* of which are contained in the four following propositions: (1) All movement considered as a passage from one state of rest to another is absolutely indivisible. (2) There are real movements. (3) Every division of matter in independent determinate bodies is an artificial division. (4) Real movement is rather the transference of a state than of a thing. In the development of these propositions we find given an interesting disquisition on the problems of matter, motion and perception.] **G. Milhaud**. 'La science rationnelle.' [Absolute truth is nowhere to be found in science. The disappearance of this contrary notion is a pure benefit to science itself.] **A. Beaunier**. 'Sur un jugement esthétique de Schopenhauer.' **A. Spir**. 'Essai sur les fondements de la religion et de la morale.' [Examines the ontological proof of the existence of God. Kant had easy work in overthrowing the scholastic form of this proof. But he only vanquished a shadow—not the real proof in its sound form. 'The fundamental fact is, that we have the idea of an absolute, or perfect, Being; or to speak more exactly, the idea of an existence or nature which is absolute or perfect; and that this idea cannot have been drawn from experience. This fact acquires its full significance only when we shew that an idea of an absolute and perfect nature of things is the fundamental law of thought—a law without which it would be impossible to form a moral judgment. The initial fact was well brought out by Descartes, viz. that we find ourselves imperfect, &c.' In its second part this Essay treats of the relation between the Absolute and the Conditioned in the physical world.] Études Critique, &c.

REVUE NÉO-SCOLASTIQUE. The first article of the May number, *Le Beau et Le Bien*, forms the second part of Professor de Wulf's *Études historiques sur l'esthétique de Saint Thomas d'Aquin*, which we notice

elsewhere. In *Premiers principes de la métageométrie*, P. Mansion discusses the geometries of Lobatchefsky and Riemann which have been formulated during the present century as results of a critical examination of the first principles of the science of space. These two younger presentments of geometry form with the geometry of Euclid, Metageometry or General Geometry, and their existence is important from a philosophical point of view as implying the destruction of one of the foundations of Kant's *Kritik der reinen Vernunft*, inasmuch as it proves the uselessness of what we may term his 'geometric imperative.' But the philosophical consequences are promised for a future number. An article by G. Le Grand on *W. Roscher et l'Historisme économique* opens with a glance at Roscher's personal history and his sphere of personal influence, enumerates the advantages and the disadvantages of the inductive and deductive methods respectively as applied to political economy, presents in some detail Roscher's inductive theory of historical evolution, and makes clear his hearty acceptance of the principles which form the foundations of society. *La Psychologie de Descartes*, a particularly able paper by D. Mercier, brings before us the French philosopher, on the eve of his tercentenary, as before all things a geometrician in philosophy, in physical science, but above all in psychology. The writer well shews that the famous formula, 'I doubt, I think, therefore I am,' lies at the root of Descartes' psychology. From this it follows that the object of psychology is not man composed of body and soul with his triple life, vegetative, sensitive, and intellectual, but mind and its thought between which there is no *real* distinction, but only a *distinctio rationis*. How this purely spiritualist view of psychology fares when brought into relation with corporal activity, D. Mercier promises to tell us in a future number.

PHILOSOPHISCHE STUDIEN. Bd. XII., Heft 2. E. Meumann. 'Beiträge zur Psychologie des Zeitbewusstseins.' (*Dritte Abhandlung.*) [The writer departs from the proposed sequence of his publications upon the time consciousness to discuss time-illusions occurring in the estimation and comparison of differently filled times. An illusory judgment of duration is one which is not due to differences in the duration of the sensations limiting the estimated intervals. The experiments deal with the comparison of stimulus-filled and empty (stimulus-limited) times. The author's two-page summary of results cannot, unfortunately, be further summarised.] F. Kiesow. 'Beiträge zur physiologischen Psychologie des Geschmackssinnes.' (*Fortsetzung.*) [Phenomena of compensation and mixture. After-tastes.] K. Marbe. 'Theorie des Talbot'schen Gesetzes,' [Duration of stimuli; difference of stimulus durations; difference of stimulus intensities; average intensity of the two stimuli; movement of contours.] J. Cohn. 'Die Gefühlswirkung der Begriffe: ein Beitrag zur psychologischen Erfassung der Geschichte der Philosophie.' [A suggestive paper, emphasising the non-logical, affective factors in the development of the concepts employed by philosophy. The writer promises an extended historical study of the problem of the infinite.]

VIERTELJAHRSSCHRIFT FÜR WISSENSCHAFTLICHE PHILOSOPHIE. XX. Jahrgang, Heft 2. M. Guggenheim. 'Zum Leben Spinozas und den Schicksalen des tractatus theologico-politicus.' F. Carstanjen. 'Entwicklungsfaktoren der niederländischen Frührenaissance.' (II. Schluss.) R. Willy. 'Der Empiriekriticismus als einzig wissenschaftlicher Standpunkt.' (II.) Anzeigen &c.

PHILOSOPHISCHES JAHRBUCH. Bd. IX., Heft 1. V. Cathrein, S. J. 'Worin besteht das Wesen des sittlich Guten und des sittlich Bösen?'

[The essence of moral good or evil consists in the tendency of any action to further or to thwart the ultimate end of man's being.] **I. Schütz.** 'Der Hypnotismus.' (*Fortsetzung.*) [The writer continues to expound at length the phenomena of hypnotism, as to their effects on the organic forces, the motor powers and the sensitive faculties.] **C. Gutberlet.** 'Ist die Seele Thätigkeit oder Substanz?' (*Schluss.*) [The conclusion reached, against Wundt and others, is that to deny the substantiality of the soul, whilst admitting its activity, is self-contradictory.] **B. Paqué.** 'Zur Lehre vom Gefühl.' (*Fortsetzung.*) [The multitude of mental phenomena is unified by the pervading character of self-consciousness, and divided into sensitive, intellectual, and moral workings of the mind.]

Bd. ix., Heft 3. **Prof. v. Schmid.** 'Das Causalitäts-problem.' [Every effect implies a cause; but does every phenomenon that begins in time imply a cause too? The *Realized* means the same as *Effect*; whatever has a beginning is realized, and implies that which realizes it: these two propositions are thus identical.] **Dr Adlhoeh.** 'Der Gottesbeweis des hl. Anselm.' (*Fortsetzung.*) [The author continues to prove that St Anselm's demonstration of God's existence is neither *a priori* nor *a simultaneo*, nor ontological (implying an immediate vision of God); but psychological, and, as such, valid.] **Dr Bernh. Paqué.** 'Zur Lehre vom Gefühl.' [After noticing the conditions which influence sensation, and briefly touching upon moral and religious emotions, the writer concludes that a 'Philosophy of Feeling' must arise, born of that of the Will, as the latter was born of the Philosophy of Consciousness.] **Mathias Kohlhofer.** 'Zur Controverse über bewusste und unbewusste psychische Acte.' [In this, the first of two papers, the writer lays down certain general principles, carefully distinguishing, for instance, sensitive from intellectual consciousness. 'Sensation and *Ego* are like water and wet sponge; both are felt together; but press the sponge, and you will feel both separately.']

ARCHIV FÜR SYSTEMATISCHE PHILOSOPHIE. Band II., Heft 3. **J. Bergmann.** 'Das Begriff des Daseins u. das Ich-Bewusstsein' (II). **P. Natorp.** 'Grundlinien einer Theorie der Willensbildung' (III). **B. Erdmann.** 'Die psychologischen Grundlagen der Beziehungen zwischen Sprechen und Denken' (I). JAHRESBERICHT über die Erscheinungen auf dem Gebiete der systematischen Philosophie: (IV). **F. Tönnies.** 'Jahresbericht über Erscheinungen der Sociologie aus den Jahren 1893-1894, nebst Vorbericht.'

VAPROSI PHILOSOPHII I PSYCHOLOGII. March-April, 1896. **W. Gervié.** 'Herder's Philosophy of History.' [This first paper points out that the philosophy of history had its rise in the eighteenth century; Herder was the first to inquire into the progress and destiny of mankind.] **L. E. Obolenski.** 'The autonomy of man and its progressive phases.' [Having, in a foregoing paper, defined autonomy as the power of self-transformation, the writer follows it from inorganic substances to man, and affirms that we constantly tend towards a better state.] **S. N. Trubetaki.** 'The Basis of Idealism.' [Hegel's conception of Being is attacked in this paper. The idea of Being has no scientific meaning, beyond the limits of thought and feeling.] **L. Lopatin.** 'The phenomena of conscious life.' [The unity of consciousness, the consciousness of the reality of time and that of our own activity, are not the results of experience but its condition and its very soul.] **Nicholas Grote.** 'Souvenirs of M. M. Strachoff.' [He was an idealist and a decided Hegelian, yet independent in his views.] **M. M. Niepluyeff.** 'The Christian harmonies of the soul.' [The confession of a man penetrated with the idea of Christianity according to the Bible.]

A. M. Bernstein. 'The world of sounds, as an object of sensation.' [No sound can become an object of sensation, unless it simultaneously excites the hearing organ and the nerves of its muscular apparatus.]

RIVISTA ITALIANA DI FILOSOFIA. March—April. **A. Andreo.** 'L'origine della Vita.' [Life is not eternal and the date of its beginning can be determined from geological and biological data. The question of how life began is next discussed—(a) a creation and (b) spontaneous generation are declared illegitimate hypotheses, and life is finally deduced according to evolutionary methods by six inorganic and four organic stages.] **G. Marchesini.** 'Idealismo, Materialismo, e Positivismo.' [Idealism and Materialism are both characterized as sterile, while Positivism is progressive, a severe counsellor of prudence and hope. In this article Idealism is understood as Empirical Idealism, chiefly in connection with the work of Mill and M. Brisac, and there is little mention of the "Constructive Idealism" between Kant and Hegel.] **N. R. D'Alfonso.** 'La Follia di Ofelia.' [An endeavour to interpret the mental states of Hamlet and Ophelia psychologically, in which the primary datum is a morbid over-excited condition of mind in Hamlet which he cannot communicate to others. Though Ophelia endeavours to enter into Hamlet's inner life she can only reach the fringe of it, which appears to her to be a general state of gloom. While she is in this condition she hears of her father's death and this leads to madness. A comparison and contrast of Macbeth and Lady Macbeth with Hamlet and Ophelia is of interest.] **B. Labanca.** 'Il Congresso delle Religioni a Chicago nel 1893.' **A. Val-Darnini.** 'Due Riforme necessarie nella Istruzione secondaria.' Bibliografia Bollettino &c.

IX.—NOTES AND NEWS.

THINKING, FEELING, DOING.

THE April number of *Mind* contains, contrary to its custom, a singularly unjust review, namely, of my book, *Thinking, Feeling, Doing*.

It is not a criticism, for not one word is said that would give the reader of *Mind* any idea of the circumstances under which the book appears, of the adaptation of the book to those circumstances and of the results that follow from making a success of the attempt.

The request came from a most powerful institute for public education, the Chautauqua Literary and Scientific Circle, for a popular book on the new psychology. It was an opportunity for the new psychology such as has never occurred before and might never occur again, to form the public attitude (and in America everything depends ultimately on this attitude). I accepted the responsibility of preparing a book for the widest circulation that can be obtained for a scientific work. It would seem probable that, living nearer the centres of civilization and not in the wilds of California, and having made a study of public indifference and public taste, I would know how to write the book better than Prof. Angell; yet he complains of "209 illustrations to 294 pages of text," "excavations beneath the popular level," "of the nursery-book type," etc. He thinks that the public "needs a missionary," that the greatest originality of the book lies in its "jocularity," with other more or less facetious and dignified criticisms.

The book was not written for Prof. Angell's benefit, but was intended to be reading of the liveliest and most striking kind. The public has found it so. It is not my place to state the particular features that brought about this result;—that should have been done by a fair-minded reviewer. It is somewhat unfortunate for Prof. Angell's prophetic powers that the result had already appeared before his review appeared.

Prof. Angell, utterly disregarding the nature of the book, proceeds to criticise *Thinking, Feeling, Doing*, from the standpoint of a learned treatise on psychology. The rest follows as a matter of course. I am charged with "borrowing" illustrations from other works. Over two thirds of the illustrations were made expressly for my book or were "borrowed" from my own *Studies*; of the rest most were commonplaces like the optical illusions that are "borrowed" by every book on psychology; the few remaining ones, like Kirschmann's perimeter-chart or König's fork, are, or ought to be, familiar to every psychologist. For these the competent psychologist needs no reference, and the public wants none.

He also complains that I do not give references to the psychological sources from which I have drawn material and ignores the fact that "references" are utterly out of place in a popular work. He would have

complained in any case, for, if I had given the sources from which the material was drawn, a large part would have been to my own *Studies*. This would have displeased him because he makes a special objection to the fact that I appear as one of the characters in five of the scenes photographed in the laboratory. In the first place, what difference does this make to the public, to whom I am personally unknown? In getting up the scenes with several persons great difficulty was found in obtaining people to take part in them; it was necessary to have some variety beyond the assistant, the mechanic, the janitor and occasional students. To the casual reader the characters might represent anybody. Prof. Angell must, however, have studied the figures very carefully, for I confess that, until he mentioned it, I had forgotten the matter and upon looking at the figures again was hardly able to recognise the faces in some of them.

At any rate the book was not intended for those who would know or care for personal matters of this sort.

Prof. Angell also blames me for not giving proper credit to the translators of Wundt's *Vorlesungen*. Here again it is a matter of misunderstanding and misrepresentation. To the rule of no foot-note references one exception was made, namely, a reference to this very translation. This was deliberately done to make the translation known to the tens of thousands of readers who would for the first time hear of Wundt's work. I supposed that I had thereby paid off all obligations. If I had put the reference in the preface, which the public never reads, Prof. Angell could not have found the least fault, but, because I selected the most forcible place for it and did not specify exactly where I was indebted to the translation and where to the original, he raises a great noise about "borrowing." I have not heard complaints either from publishers or the translators, but, if they misunderstand my efforts and will express the wish, I shall omit both the quotations and the reference in future editions.

In general, everything "borrowed" in the book is (or ought to be) to the psychologist the most familiar commonplace without need of a reference, while to the public such a reference would be merely an irritation.

The utterly trivial and superficial character of Prof. Angell's tirade is evident to anybody acquainted with the book or with my work; the motive that would lead to such an exhibition is not hard to find.

In conclusion, let me ask the fair-minded reader to remember that it required considerable courage to subject myself to just such sneers and attacks as Prof. Angell's by writing a popular book to aid in establishing laboratories, that the arousal of public interest by my book has done more than anything else could do at the present moment to further the cause of experimental psychology in America, where the funds are controlled by members of the public, and that the scientific principles taught in the book do not yield one jot from the demands of high grade work which I learned at Leipzig, which I have maintained in my *Studies*, and which I have in vain attempted to teach to certain American psychologists.

E. W. SCRIPTURE.

REPLY TO A CRITICISM.

Though I have great reasons to feel myself indebted to Mr John I. Beare for his review of the first volume of my *History of Modern Philosophy*

in the April number of this Journal, I wish to make some remarks on a few of his objections.

1. In my criticism of the psychological dualism of Descartes I am said to "commit the logical impropriety of judging *Erkenntnistheorie* by the canon of *Psychophysik*" (*Mind*, April, 1896, p. 251). This objection is contradicted by the very doctrine of Descartes himself. Descartes leaves what we now call *Erkenntnistheorie*, as soon as he conceives mind and matter as two substances, two *res*. A substance, a *res*, is an object of knowledge. The problem of the relation between mind and matter is therefore a problem of the relation of *two objects*, and not a problem of the relation of *subject and object*.—I am quite of the opinion of Mr Beare about the difference between *Erkenntnistheorie* and Psychology (or Psychophysics), and I cannot see that I have forgotten this our common view in my criticism of Descartes.

Mr Beare says: "Thought and extension were terms which for him [Descartes] primarily represented the terms self and object. Therefore it is that he asserts so strenuously the impossibility of throwing light on their relation by any process of inductive observation." But this last sentence is in flagrant contradiction to the declaration of Descartes. He asserts that the causal relation of mind and body is a matter of fact, which we learn from experience, though no comparison or ratiocination can make us understand it: "Quod autem mens, quae incorporea est, corpus possit impellere, nulla quidem ratiocinatio vel comparatio ab aliis rebus petita, sed continua et evidentissima experientia quotidie nobis ostendit." (*Epistolae Renati des Cartes*. Francofurti 1692, II, p. 17.) "Quae ad animae et corporis conjunctionem pertinent, non nisi obscure per intellectum solum aut etiam per intellectum imaginatione adjutum cognoscuntur, sed *per sensus clarissime*." (*Ib.* I. p. 17.)

My point as against Descartes is not—as Mr Beare puts it—that he did not throw light on this problem by any process of inductive *observation*, but just this,—that he took the causal relation as an observed fact and omitted to throw light on it by means of "comparison and ratiocination," which would have shown that no observation can reveal such a relation. He should then have drawn the consequences of his theory of substance and of his principle of the persistence of motion, which later on were drawn by the Occasionalists and Spinoza.

2. Mr Beare says (p. 355): "Whoever will read Höffding's observations (p. 449) on the *Analogy* of Butler, and then those of Mr Leslie Stephen (*An Agnostic's Apology*, p. 31), will, on comparing both, have some ground for conjecturing the source whence the former derived his information." I can assure Mr Beare, that I have not the pleasure of knowing the *Apology* of Mr Stephen. I was even ignorant of the existence of such a book. My reflexions on Butler suggested themselves to me at the study of his book, but I am glad to hear from Mr Beare, that a thinker, whom I—from what I know of him—appreciate so highly, has arrived at the same conclusions. I was very well aware that Butler himself had seen the consequences which could be drawn from his doctrine, and I have (p. 449) not omitted to suggest the manner in which he tries to evade them. But I cannot see that he has been happy in this attempt. "Disingenuity" (the word is Mr Beare's) I should certainly shun against every one, but above all against such a thinker as Joseph Butler, whom I revere as a profound and acute genius.

HARALD HÖFFDING.

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Among the papers which appear in the programme for the next Session of the Aristotelian Society, are "The Relation of Sociology to Philosophy," by the President, "Hegel's Treatment of the Categories of the Subjective Notion," by J. E. McTaggart, "The Relation of Quantity to Number," by B. A. W. Russell, "Types of Will," by A. F. Shand, "The Ideal of Knowledge," by J. H. Muirhead, and others, the titles of which are not yet specified, by Professor Wallace and L. T. Hobhouse. It has been agreed that selected papers for this year should be printed in *Mind*, so that Members of the Society will receive a copy of *Mind* in place of the ordinary volume of the *Proceedings*, which will not be published.



MS. and other Communications for the Editor, except those from America, should be addressed to Mr G. F. STOUT, University, Aberdeen, N.B.
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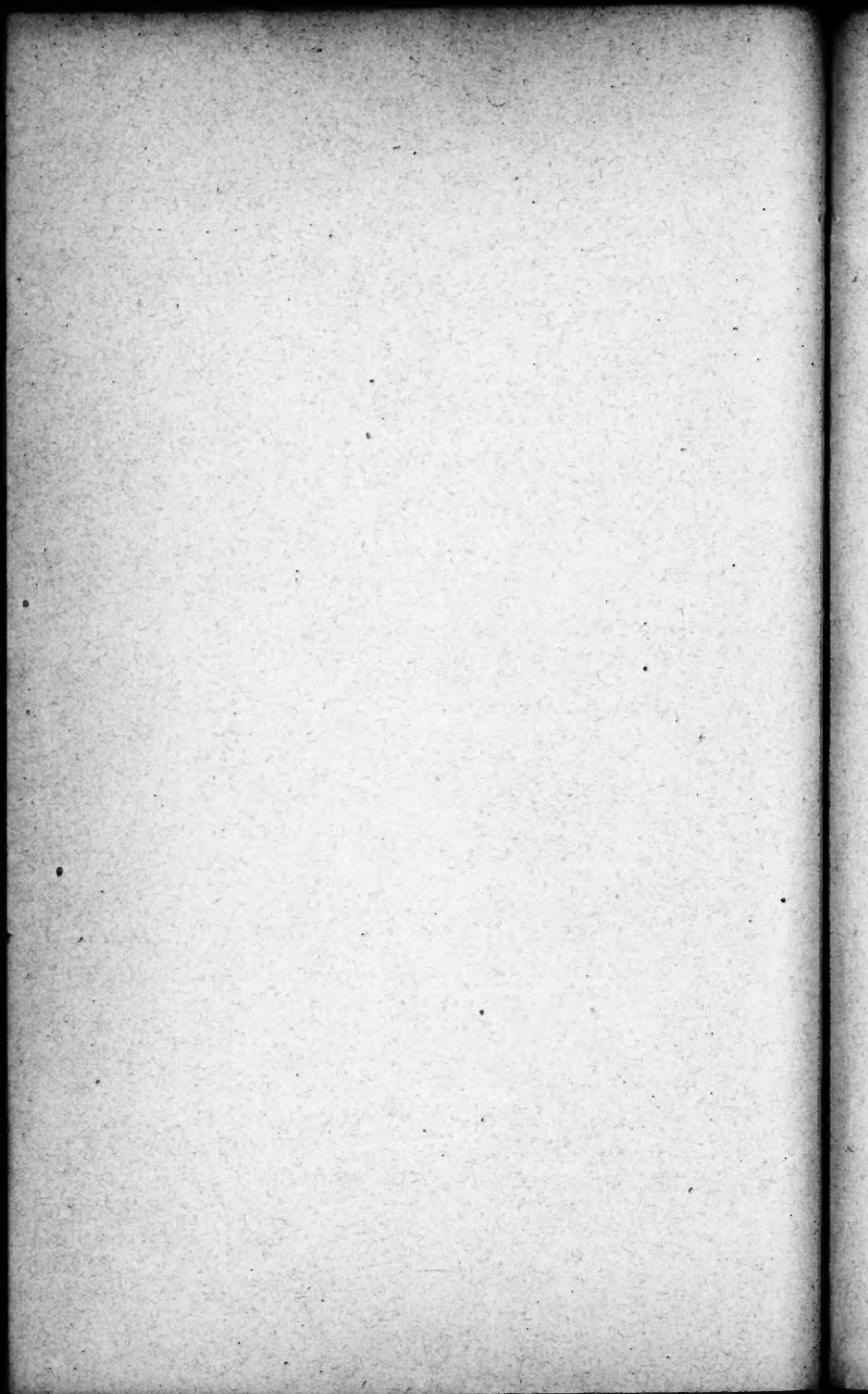
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